

CRISP REPORT

Connecting Research in Security to Practice

Mass Homicides by Employees in the American Workplace

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ABOUT THE CRISP SERIES OF REPORTS

Connecting Research in Security to Practice (CRISP) reports provide insights into how different types of security issues can be effectively tackled. Drawing on research and evidence from around the world, each report summarizes the prevailing knowledge about a specific aspect of security, and then recommends proven approaches to counter the threat. Connecting scientific research with existing security actions helps form better practices.

Reports are written to appeal to security practitioners in different types of organizations and at different levels. Readers will inevitably adapt what is presented to meet their own requirements. They will also consider how they can integrate the recommended actions with existing or planned programs in their organizations.

This CRISP report focuses on a rare type of high impact threat, mass homicide by employees. The authors Seungmug (Zech) Lee, PhD, and Robert McCrie, PhD, CPP, report on new research about an area that has hitherto received relatively little scholarly focus. They highlight the importance of managing workplace problems with and between employees (and departing employees) carefully and highlight the close link between good management practices and effective security in reducing risks.

CRISP reports are sister publications to those produced by Community Oriented Policing Services (COPS) of the U.S. Department of Justice, which can be accessed at www.cops.usdoj.gov. While that series focuses on policing, this one focuses on security.

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Chair
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**An ASIS Foundation
Research Council CRISP Report**

Mass Homicides by Employees in the American Workplace

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Executive Summary

HOMICIDES BY EMPLOYEES at the workplace are low frequency, high consequence events. Workplace mass homicides (WMH) by employees, defined here as having at least three victims, occur with even less frequency. Yet such explosive crimes by people previously vetted as workers and under supervision of the workplace have a profoundly harmful impact. Negative consequences accrue to the immediate location, the entire organization, and the community. Not surprisingly, the possibility of such crime ranks as a high concern for security practitioners, HR managers, and senior executives. This study analyzes 44 cases of WMH from 1986 to 2011. Mass incidents are studied because details concerning them are more complete than the far more numerous single-victim workplace homicides. Guns or firearms are always used. White employees are the most frequent offenders, while other racial groups are disproportionately less likely to commit such offenses. The average perpetrator is 39 years old. Males are disproportionately the perpetrators, although two cases of female killers are included. The earlier notion of shooters being blue-collar workers is challenged by this data, as managerial and professional workers joined the ranks of workplace killers. Victims may be indiscriminately chosen; however, shooters have a bias for killing those who were their supervisors. In about half the instances, the worker had been discharged and returned months later to

settle a score. Security might have prevented these discharged workers from returning to their places of employment, but did not. The profile of the typical offender is that of a loner with antisocial tendencies. WMH offenders are not clinically insane. They do not have drug use habits or dependencies. Triggering events occur in most cases. The precipitating factors in order of frequency are: (1) termination or a negative job performance review; (2) interpersonal problems among workers; and (3) constant teasing and ostracizing by co-workers. Workers who make threats against others in the workplace should be regarded as risk factors, even months or years after their departure.

Introduction

WORKPLACE HOMICIDES GRAB ATTENTION with their horror, the apparently unexpected violence, and deep puzzlement about how someone once chosen as a trusted employee could turn into a cold killer.

- On the morning of August 3, 2010, Omar Thomas, a 34-year old warehouse driver for a beer distributor, opened fire killing eight and wounding several more at his workplace. The shootings occurred right after a disciplinary hearing in connection with a theft. He had signed a resignation letter in the process. Thomas used two handguns in the attack. Among the victims were several company managers. Thomas ended up shooting and killing himself.
- On February 15, 2010, Amy Bishop, a 44-year old biology professor at the University of Alabama at Huntsville opened fire and killed three faculty members and wounded several more. The shootings occurred immediately after her tenure application was denied by the university. The chair of her department was among the victims. Bishop was arrested afterward.

These are two examples of workplace mass homicides (WMH) by employees – the most extreme form of workplace violence. Violence in the workplace has always ranked at or near the top concern among security threats to organizations. Pinkerton Consulting & Investigations conducted a survey of threats

and security management issues over many years. Executives of Fortune 1000 corporations provided their views. The surveys were conducted annually from 1997 to 2003, and again in 2008. In each iteration (one exception was in 1998 when the topic placed second) workplace violence ranked first among approximately 23 security threats (Top Security Threats, 2003). This was despite the fact that violence in the workplace is infrequent relative to other locations. More recently, Securitas USA repeated the survey (Top Security Threats, 2010). Among 28 top security threats, workplace violence prevention/response ranked second in importance among security practitioners. Only cyber/communication security had an incrementally higher rank.

This CRISP Report provides original research and insight on the threat of workplace mass homicide. An incident of WMH by employees invariably receives sensational media attention locally, nationally, and often internationally. Yet each such incident is usually a single event occurring in a single time frame. Once the public is informed, the episode is over. Horror over the incident is widespread, but little enduring anxiety results to the community as a whole. Consequently, this topic has been neglected from academic attention, relative to the interest in serial killers who, typically, are not employed. As such, little is known about WMH not only by the public, but also by security professionals and managerial and executive personnel.

The Problem of Workplace Mass Homicides (WMH)

The authors have identified 44 cases of WMH from 1986 to 2011. Each case has been researched to identify a wide variety of characteristics. These characteristics can lead to a more informed personnel selection process and help aid security-management decisions and practices concerning troubled employees. In particular, this report aims to discuss the characteristics of WMH to provide guidance in an effort to minimize chances of WMH occurrence. This report considers previous studies relevant to WMH and presents several major cases as illustrations. It also describes the nature and characteristics of WMH based upon 44 cases collected from 1986 to 2011. Finally, the report suggests practical strategies to deal with triggering factors that are associated with WMH with a goal of averting their occurrence.

1. Definition of Mass Homicides in the Workplace

Mass murder (or mass homicide) is generally one of the three major forms of multiple killings. The other two are killing sprees and serial murders (Holmes and DeBurger, 1988; Ressler, Burgess, and Douglas, 1988). Three criteria are often used to differentiate types of multiple murders: the number of victims, the time of killing, and the place of an incident (Holmes and Holmes, 1992, 2001).

The first issue is the “number” of victims in order for the killing to be considered a mass murder event. Some researchers propose that four is the base referential number of victims (Douglas, Burgess, Burgess, and Ressler, 1992; Fox and Levin, 1998; Dues, 2000, 2004), while another argues that at least five or more injured victims are required with at least three killed (Dietz, 1986). Little agreement has been reached on whether injured victims should be included in the definition of multiple homicides because the focus is the number of victims killed (Holmes and Holmes, 2001). Several researchers also consider three as a cut-off number without any consideration to the number of injured people (Holmes and DeBurger, 1985, 1988; Hickey, 2010; Petee, Padgett, and York, 1997; Holmes and Holmes, 1995, 2001). This report adheres to this latter numeric.

The second matter concerns “when” the murder occurred. Mass murder must occur at one time and in one place. The meaning of “one time” needs clarification. The killings may take place within a few minutes or several hours, yet most researchers agree that mass murder is committed within a 24-hour period. By contrast, a spree murder occurs within a 30-day period, and a serial killing tends to occur repeatedly over more than 30 days (Holmes and Holmes, 2001).

The last issue concerns the “place” of the rampage. “One place” does not strictly mean just one geographic location or building. Mass homicides may be committed at more than one geographic location if conducted over a short period (Holmes and Holmes, 2001). If the murderer kills some people at one place then does so again at an adjacent place in a specific area, both incidents may be considered an act of mass homicide.

This report defines WMH as an incident with a minimum of three dead victims that occurred within 24 hours at one location or another related location if the same offender committed multiple shootings.

2. What This Report Does and Does Not Cover

Multiple homicides can occur in various contexts and circumstances with different types of offenders, locations, motivations, and triggering factors. It could be meaningful to study all types of multiple homicides. Such an approach would be broader than this report, which focuses on a specific crime problem to produce a better understanding and to propose realistic palliative measures. By analyzing cases of WMH, the authors seek to provide a coherent picture of this uncommon but devastating carnage.

The audience for this report is primarily security professionals and personnel managers in both the private and public sectors.

This report assesses worker homicide characteristics in places of employment. The authors have concentrated on WMH by employees rather than workplace crimes with only one or two victims, because fuller details are available on incidents involving multiple victims. While serial killing and killing sprees often involve multiple offenders over longer periods, each WMH case in this report was committed by a single offender with one or more firearms over a short time span. Some incidents produced multiple wounded victims, while others resulted in one or none. This report includes only WMH committed by a current or former employee. Thus, it is one form of Type III (co-worker) workplace violence, whose perpetrator is an employee or former employee of

the workplace who attacks a supervisor, owner, or another employee (Howard, 1996; Loomis, 2008). However, what differentiates WMH from Type III workplace violence in this study is the minimum of three dead victims.

Other categories of mass killing in the workplace are not included such as those committed by customers of the workplace (Type II workplace violence) and killings where the shooter had no relationship with the business or company involved (Type I workplace violence). Several crimes occurred in which the offenders were family members of the victims (Type IV workplace violence). Type IV violence - characterized by troubled personal relationships with fatal consequences - is not included for analysis. In addition, mass homicides due to arson or in the process of other crimes (Type I workplace violence) (e.g., robbery) are not included in this report. This is because the purpose of arson is likely to destroy property, while the reason for robbery-related murders tends to be not to leave any witnesses.

Finally, this report does not include killing sprees or massacres occurring in educational settings by students. Characteristics of multiple homicides in both workplace and educational institution are similar, but this report excludes them because the actors are students and not employees. For example, the killings at Columbine High School in 1999, with 12 dead and 21 injured, and at Virginia Tech in 2007, with 32 dead and many more wounded, were both committed by

student offenders in a relatively short time period. Educational institutions are different in the sense that they may have the right to select-out potentially problematic students. They also may be able to apply the doctrine of *in loco parentis* to student management.

The above conditions reduce the total number of mass killings for analysis and study in the report. However, as discussed, few research reports exist on characteristics of workers who kill in their current or former place of employment. This focus is imperative to deepen the understanding of this phenomenon and to discuss preventative measures for security professionals and management personnel.

3. What the Literature Says about WMH

Workplace homicide studies have made little effort to consider mass murder in the workplace by employees as a separate issue. Since the mid-1980s, government agencies [e.g., the Occupational Safety and Health Administration (OSHA) and the National Institute of Occupational Safety & Health (NIOSH)] have statistically examined occupational mortality using data from death certificates. Those studies do not focus on homicide specifically but on the association of the cause of death within an occupation or industry (NIOSH, 1997). Death certificates are considered the primary source of national data with regard to workplace homicide (Kelleher, 1997a; NIOSH, 1992), yet they do not contain comprehensive, relevant information about incidents of occupational homicide.

Regarding demographic characteristics, Kelleher's profile of workplace murders (1997a) identifies offenders as male (80-95 percent), white (70 percent), and between the ages of 30 and 60 (75 percent). Duncan (1995), studying non-stranger workplace killers, finds that 97 percent of the assailants are male and that the average age of the offenders is 38.2. Levin and Fox (2001) additionally find that the vengeful worker is typically a middle-aged white male who faces termination and is in a financial difficulty.

Moracco and his colleagues (2000) studied 361 workplace homicides occurring in North Carolina from 1977 to 1991. They found that workplace homicide rates are highest for men, older victims, and self-employed workers, minorities, and specific occupations, especially taxi drivers. Robberies, mostly in retail settings, account for half of the cases, while about 20 percent are known to involve disputes, the contexts of which differ by sex. Women are most likely to be killed by estranged partners.

The physical location of mass killings varies. Petee and Padgett (1999) find that restaurants are the most likely place for a mass killing (16.1 percent), followed by retail and grocery stores (14.5 percent), and government offices and facilities (12.9 percent). Duncan (1995) argues that, if more general categories are applied for defining location, 40 percent of the mass murder incidents occurred in commercial areas (e.g., restaurants and stores) and 31 percent in other workplaces. Government offices and facilities are highly

likely to be workplace homicide sites, accounting for 38 percent of the cases. In non-government occupations, factories and production facilities comprise 18 percent of homicide incidents.

A firearm is the weapon of choice in mass murder incidents. Mass murderers often use powerful automatic handguns or military style weapons in order to inflict maximum damage (Kelleher, 1997b). Mass murderers bring three weapons on average. The range is from 1 to 11 (Hempel, Meloy, and Richards, 1999). Duncan (1995) finds that a firearm is used in all cases of workplace homicide and that the use of firearms itself reflects planning by the offender.

Petee and Padegett (1999) show that the majority of workplace murderers (64.7 percent) attempt to commit suicide, whereas Duncan (1995) finds that only 36 percent of the offenders committed suicide. The average number of workplace homicide victims per incident, including offender suicide, is 2.5 (Duncan, 1995). Before the lethal incident, offenders give warning signs to their victims, either verbal or written, that often are not adequately assessed. Of 30 killers in Hempel and his associates' study (1999), 20 subjects (67 percent) made threats to kill co-workers before the incidents. In many cases, managerial personnel where the offenders worked did not to take such warnings seriously.

With regard to triggering events and motivation, Levin and Fox (1996) suggest three contributing factors to mass murder: (1) predisposers (e.g., long-term frustration and

externalization of blame); (2) precipitants; and (3) facilitators (e.g., via social or psychological isolation). Precipitants can trigger violent rage, and most mass killers experience a sudden loss or the threat of a loss (e.g., an unwanted separation from loved ones or dismissal from a workplace). Kelleher (1997a) also emphasizes the importance of triggering events that induce the potentially violent individual to commit violent actions and argues that 70 to 90 percent of lethal employees experience triggering events prior to the killing.

For motivation to commit mass murder, Petee and Padegett (1999) posit that most of these crimes involve offenders who have identifiable motivations for their violent actions. Moreover, Levin and Fox (1996) report that revenge is often the motivation for mass murderers who seek to even a score with managers or co-workers.

Though previous studies on workplace homicides provide rich and insightful knowledge, limitations occur in understanding WMH by employers. For example, the government data widely used for analyses (e.g., supplementary homicide reports and death certificates) does not contain sufficient information suitable for WMH analysis. It is reliable to some degree, yet has a limitation of not being able to differentiate mass killing in the workplace from overall mass murder or workplace homicide. In addition, single or multiple case studies often provide insight into understanding the characteristics of mass murder or workplace homicide. However, most studies tend to rely on sensational massacres, which are

more likely to be reported by news media. As a result, doubt exists that the whole image of mass murder or workplace homicide created from such studies coincides with that of workplace massacre. Finally, lack of a systematic approach in data analysis exists. The typology of mass murder and several descriptive studies make the public aware of the variety and differences of mass compared to general homicide. However, they do not present further information about why, when, and how an individual commits such a massacre. Mass homicide in the workplace by employees deserves to be studied from such a point of view. Understanding contributing factors to a massacre and the behavioral dynamics of murderers can be the key to establishing a prevention or mitigation strategy.

This report explores all WMH cases in the U.S. workplace since 1986. It aims to present more detailed dimensions of WMH as a result of the data collection. In addition, in order to identify a possible prevention strategy, circumstances surrounding an offender before killing and situational factors of an incident itself are scrutinized.

4. Recent Major Cases of WMH by Employees

On January 12, 2010, Jesse J. Warren, who had lost his job at a local truck rental and leasing company after working as a mechanic from June 2005 through July 2009, returned to his workplace with at least two handguns and opened fire on his coworkers. Five people were shot: three died and two were injured. Warren, a 60-year-old white male, had a reputation among co-workers as being unsociable and unable to focus on his work. He also had financial troubles at the time. After the shooting rampage, Warren drove away from the scene but was pulled over and arrested by the highway patrol.

On January 8, 2010, Timothy G. Hendron, a 51-year-old white male embroiled in a pension dispute with his employer, appeared at his company's factory and opened fire during an early morning shift change. He killed three workers and wounded five. Hendron, who possessed an assault rifle, two handguns, and a shotgun with hundreds of rounds of ammunitions, was later found dead inside the building from a self-inflicted gunshot wound.

On November 5, 2009, Nial Hasan, a U.S. Army major and psychiatrist, opened fire on troops at the Army's Soldier Readiness Center in Fort Hood, Texas. Many soldiers there were about to be deployed for Iraq or Afghanistan, or were returning from abroad for medical screening. Hasan left 13 people dead and 30 wounded. The FBI later confirmed that the U.S. government knew of 10 to 20 e-mails between him and a radical imam that began in December 2008. Hanson, shot four times by military police, survived the incident. This rampage is believed to be the worst mass shooting at a U.S. military base.

On February 14, 2009, Frank Garcia, a 34-year-old former nursing supervisor, embarked on a murderous rampage that started at Lakeside Hospital in Brockport, New York, and continued to the home of a former co-worker. Four were left dead and one injured. He targeted the victims after they had lodged sexual harassment complaints against him, which led to Garcia being fired from successive jobs. He was arrested after the attacks.

On November 14, 2008, Jing Jua Wu, a 47-year-old computer engineer for a Silicon Valley firm, opened fire, fatally shooting three of his former bosses. Laid off the previous week, Wu returned to the office after asking for a meeting with company officials. He killed the chief executive officer, the vice president for operations, and the director of human resources in the process. He was arrested a day after the shooting.

Dimensions of WMH by Employees

1. Workplace Homicides and WMH by Employees

Government statistics on workplace homicides indicate the rate of violent crime against employed persons has declined since 1993 (Hendricks, Jenkins, and Anderson, 2007; Loomis, 2008). In 2009, workplace homicides fell by 1 percent, in contrast to the 17 percent decrease in fatal work injuries overall. The preliminary workplace homicide count for 2009 with 521 cases represents a decline of 51 percent from a high of 1,068 homicides in 1993 (BLS, 2010).

According to a Bureau of Justice Statistics report (Harrell, 2011), among homicides in the workplace between 2005 and 2009, persons employed in sales or office occupations accounted for a third of the victims (33 percent), followed by persons employed in protective service occupations (17 percent). Shootings accounted for about 80 percent of all workplace homicides. Robbers and other assailants committed approximately 70 percent of workplace homicides, while workers committed about 21 percent. Four out of five victims of workplace homicide were male. About 48 percent of workplace homicide victims were between the ages of 35 and 54. Non-Hispanic whites accounted for about half of all workplace homicide victims, while non-Hispanic blacks represented about a fifth, and Hispanics, a sixth.

In short, from 1993 to 2009, workplace violence declined more rapidly than non-workplace violence and the number of homicides in the American workplace decreased by 51 percent. American workplaces have become safer with less violent criminal activities. However, government data do not discuss WMH cases by employees. Though the overall number of workplace homicides has decreased in American working places, WMHs do not disappear or decrease.

WMH is a rare criminal incident, but the dataset for this report indicates that WMH incidents by employees have increased in recent years with incidents involving more victims and diverse workplaces. This report analyzes 44 cases of mass killing by employees within the workplace between 1986 and 2011.

2. How Often and Where Do WMH Occur?

Mass homicides by employees in American workplaces do not occur every year. As shown in Table 1, WMH by employees occurs at an average of 2.0 incidents yearly and an average of almost 12 victims killed per year.

[Table 1] Number of incidents and victims of WMH by employees by year

Years	Number of Incidents	Number of Victims
1986	1	14
1987	1	42
1988	1	7
1989	2	10
1990	0	0
1991	2	8
1992	0	0
1993	3	15
1994	1	3
1995	5	20
1996	2	10
1997	2	8
1998	1	4
1999	4	24

Years	Number of Incidents	Number of Victims
2000	2	12
2001	1	4
2002	1	4
2003	3	14
2004	1	5
2005	0	0
2006	1	7
2007	0	0
2008	3	12
2009	2	17
2010	4	17
2011	1	3
Total	44	260
Average	2	11.8

Table 2 presents the number of WMH cases by state. While the majority of states (28) have not experienced a WMH incident, this does not mean that states with no WMH incidents have less workplace violence than states that do. WMH by employees is a special form of workplace violence with unique circumstances and conditions that require separate attention. Among states where there are two or more average incidents, California leads with 11 cases, a quarter of all WMH incidents. Florida, Missouri, and Texas have three incidents each.

[Table 2] WMH cases by state, 1986-2011

State	Frequency	Percent
AL	2	4.5
CA	11	25
CO	1	2.3
CT	2	4.5
FL	3	6.8
GA	2	4.5
HI	1	2.3
IL	2	4.5
IN	1	2.3
KS	1	2.3
KY	2	4.5

State	Frequency	Percent
MA	1	2.3
MI	1	2.3
MO	3	6.8
MS	1	2.3
NC	1	2.3
NJ	1	2.3
NY	1	2.3
OH	2	4.5
OK	1	2.3
SC	1	2.3
TX	3	6.8
Total	44	100

3. Who Are WMH Offenders?

While males and females are nearly equally represented in the workforce, WMH are male-dominated types of crime with a 95.5 percent frequency (42 cases out of 44). Concerning racial composition, 70 percent of offenders are white, while black, Hispanic, and Asian employees' together account for about 30 percent of incidents. According to the 2000 U.S. Census, the population rate of whites, black, and Asians is 19:3:1. The racial rate to WMH by whites, blacks, and Asians is 7.5:2.5:1. Though black employees appear to be more accountable for WMH than whites and Asians, disgruntled employees from any racial group can be mass killers.

The age range of WMH killers is older than the average person arrested for homicides. This is probably because middle-aged persons are typically in the workplace and are in a phase of life when they have "settled down." Although some of the offenders (7 cases out of 44) in the sample are under age 30, most perpetrators (37 cases out of 44) are over 30 years old. The age range of the offender extends from 19 to 66, with a median of 40 years old. This study finds that 70.4 percent of WMH offenders are between the ages of 30 and 49.

Researchers posit that a mass murderer is typically a loner. The classic loner is typically characterized as antisocial, aggressive, and violent. People with such traits are more likely to commit violent acts than the general populace. About 77.3 percent of murderers (34 cases out of 44) in this study lived alone. As a whole, only 34.1 percent of these murderers failed to demonstrate either an aggressive or an extremely quiet personality; consequently, antisocial and asocial employees, considered as loners, are responsible for 65.9 percent of WMH.

Kelleher (1997a) indicates that a history of violent behavior is a reliable predictor of future violent behavior. However, most WMH offenders do not have criminal records. Only seven perpetrators (15.9 percent) in this study had a criminal record for violent behavior. Of them, only three had a criminal record with multiple offenses. About 36.4 percent had served in the military (16 cases). This is lower than the findings by Hempel et al. (1999) who found that one-half of murderers in their sample served in the military.

In terms of psychiatric problems, only nine offenders (20.5 percent) had records of psychiatric treatment. Among killers that had received psychiatric treatment, none were found insane in court proceedings. This finding is contrary to the popular image of mass murderers being criminally insane.

Drug use does not seem to be a significant characteristic of WMH offenders. Only three disgruntled employees allegedly used drugs before or during killings. Because drug use or abuse can cause one to be summarily terminated in some workplaces, most employees seldom appear to engage in such risk.

In summary, based on individual characteristics of 44 WMH offenders, the disgruntled employee is most likely a white male in his 30s or 40s, may have prior military service, lives alone, and possesses an antisocial or asocial personality. Contrary to general impressions, lethal employees rarely have a violent criminal record, and are unlikely to have undergone psychiatric treatment. Further, they are not likely to be drug users. Therefore, the characteristics of WMH offenders differ from those of the typical mass murderer or the workplace homicide offender.

4. What Are WMH Occupational Characteristics?

Disgruntled employees may commit violent acts not because of any inherent personality disorder, but rather because of something related to their occupational circumstances. If researchers thoroughly examined offenders job performance, it could help lead to a better understanding of workplace massacres. Unfortunately, researchers have seldom examined job-related factors – only employment status and job types of mass murderers.

The data for this report shows that former (45.5 percent) and current (54.5 percent) employees commit mass killings in the workplace at the same rate. The image of mass killing in which a terminated former worker returns to his earlier workplace for revenge is not always accurate. This finding indicates that job termination does not account for all WMH, as employees responsible for half the incidents were not terminated at the time of the killings.

When job type is divided into three categories—blue-collar, white-collar, and professional—about three fourths of WMH offenders have blue-collar jobs; eight (18.2 percent) had white-collar jobs; and five had professional credentials. In a slight shift, Hempel et al. (1999) showed that 50 percent of mass murderers had blue-collar jobs.

Over 68.3 percent of WMH offenders worked less than 10 years and about 22 percent had only worked at their present job for a few weeks or several months.

Interpersonal associations with fellow workers in the workplace are important in life just as familial relationships are. Over 65.9 percent of WMH offenders were described as loners at their workplace. As a result, they may have been singled out by their co-workers and subjected to teasing or insulting behavior.

In addition, offenders often commit mass killings because the victims had the authority to evaluate job performance and terminate their employment. Though about 22.7 percent of WMH offenders (10 cases out of 44) seemed to work well with others, they nonetheless killed co-workers indiscriminately concomitant with their problems linked to management personnel.

Only 16 cases (36.4 percent) of WMH offenders had trouble performing their jobs according to workplace expectations. Most disgruntled employees worked well and furthermore, some were considered exemplary workers. One such person, John Taylor, in 1989 killed three coworkers at the Orange Glen Post Office in Escondido, California. He had received numerous model-employee awards during his 27 years with the Postal Service. Nobody who knew him conceived that he would commit such a rampage.

A verbal or a written warning can be an indicator for future violent risk. Hempel et al. (1999) show that about 70 percent of mass murders made threats to kill before committing massacres. However, this report finds that only about 43.2 percent of WMH offenders warned their victims or someone in the workplace before they killed. Some warnings were explicit with the shooters stating that they would return to their workplace to settle a score.

To sum up, based on occupational information of WMH offenders, a disgruntled employee is likely one who is employed or had been fired. In contrast to former workers who left on their own volition, he is more likely to have a blue-collar work assignment with less than ten years on the job. In particular, one-half of WMH offenders had been employed at their workplace for less than five years. Concerning interpersonal relationships, a lethal employee is less likely than most to work productively with his co-workers, particularly his supervisor or a superior manager. The more aggressive and antisocial an employee is, the worse his interpersonal relationships evolve at the workplace. Furthermore, as an important indicator of WMH by employees, such an employee tends to threaten to kill before any violent act transpires.

5. What are WMH Incident Characteristics?

The analysis of this report shows that 59.1 percent of WMH by employees occurred between 8:00 A.M. and 4:00 P.M. Furthermore, if the time immediately before and after working hours are considered, more than 86 percent of the incidents took place. This finding is similar to previous homicide studies. Though several incidents occurred at night, those killings were committed by offenders who knew where their victims would be at that time or who themselves worked at night.

The type of workplace varies (see Table 3). Most WMH by employees occurred at factories, within business buildings, and in government facilities, but other types of workplace spaces—particularly offices—are also vulnerable locations to a killing by a disgruntled employee. In addition, a perpetrator aiming at specific co-workers may invade their houses and kill them there.

[Table 3] WMH cases by different types of workplaces, 1986-2011

Workplace Type	Frequency	Percent
Commercial area	3	6.8
Business building	13	29.5
Factory	13	29.5
Government office	9	20.5
Others	6	13.6
Total	44	100

As previous studies revealed, all WMH offenders in this research used a handgun or rifle to commit their crimes. The number of weapons used in the killings is 2.0 on average, with the range of 1 to 5. Weapons used include semi-automatic rifles/pistols, revolvers, and shotguns. Perpetrators also possessed a samurai sword, a hand grenade, additional guns they did not use, and other lethal devices.

Each WMH incident, on average, claimed six lives, with most victims being fellow workers. Some victims appear to be randomly selected, yet most WMH offenders entered their workplaces with the intent to kill coworkers connected to the killers' discontent or craving for revenge. Since 65.9 percent (29 cases out of 44) of incidents involve the death of a supervisor, manager, or employer, it may be deducted that the killings are planned by the offenders and directed at those most responsible for disciplinary or employment termination decisions.

One of the most commonly held beliefs about mass murderers is that the killer commits suicide after completing his plan (Petee and Padgett, 1999; Hempel et al., 1999). This report found 47.7 percent of the shooters killed themselves after their massacres, while the police arrested 45.5 percent. Only three WMH offenders in the study were shot and killed by responding police.

6. What Are WMH Triggering Factors?

The motivation of the offenders is an important factor in understanding why they committed such horrible crimes. Unfortunately, the study's 44 WMH cases did not provide sufficient information about motivation because, as the findings of this report indicate, nearly half of perpetrators were killed either by themselves or by the police. Furthermore, informed co-workers who knew well why the massacres took place were usually dead victims. Thus, the accurate motivation of WMH offenders is not easily known and is deduced from statements made by those who were not so intimately involved with the shooters.

However, based on available evidence, perpetrators in the workplace were largely motivated by revenge and anger. About 89 percent of the offenders in this report murdered their fellow workers for these reasons. One case was motivated by frustrated love and another was classified as a hate crime.

In addition, the events that made the employees commit massacres in the workplace are also critical. Triggering events likely aggravated the offenders' psychological equilibrium, exceeding their capacity to control aggressive impulses. As previously noted, about 61.4 percent of the WMH offenders slayed their fellow workers after being fired. In this regard, they had long-term arguments or disagreements with their supervisors. Thirteen offenders (29.5 percent) were angered by the treatment received

or by the evaluation of their job performance by management personnel.

A separate issue is teasing or ostracizing by fellow workers. In particular, an asocial and quiet employee who fails to develop positive rapport with co-workers may experience such teasing. The "Xerox killer," Bryan Uyesugi, had felt ostracized by his co-workers for years before his anger outburst. His rampage resulted in the killing of seven coworkers.

Examining when WMH offenders carry out their plan to commit a massacre after triggering events can be a valuable guideline for mitigation. A previous study found that half of work-related homicides occurred within 24 hours after a dispute and most within two weeks. However, WMH by employees generally do not take place immediately after the triggering events. In fact, only seven cases in this report took place within 24 hours and cases where the offenders committed massacres within a month were responsible for only 31.8 percent of all WMH incidents. Approximately three fourths of WMH occur several months to a year after triggering events. A temporal interval between a precipitant situation and a killing is a significant characteristic in a workplace massacre.

Disgruntled employees experience one of three major precipitants—[1] termination/warning to be fired, [2] argument/discontent, and [3] teasing/ostracizing. Most of these offenders kill fellow workers after a significant time elapses. In particular, argument or teasing can take several months to a few years before resulting in a mass killing. Disgruntled employees do not tend to murder their victims with temporary impulsiveness.

WMH by employees differs from other types of homicide in two ways: (1) planning – impulsive or premeditated, and (2) anticipated gain – expressive or instrumental. Most general workplace homicides are motivated by arguments or conflicts as precipitating events, resulting from a spontaneous, impulsive, expressive, and a delayed reaction (Moracco et al., 2000; Douglas et al., 1992). Thus, the anticipated gain by the active homicide produces a psychological or expressive reward. Offenders do not intend to take a victim's valuables or belongings. Therefore, felony murder is different from impulsive killing in the workplace. General workplace homicide motivated by property crime, such as robbery (Type I workplace violence), is planned in advance of committing the felony (Douglas et al., 1992).

WMH by employees are different from other types of deliberate homicide. WMH offenders are often motivated by revenge and anger over job termination, disagreement with job performance evaluation, or long-term arguments with coworkers. They plan to kill their coworkers who, they think, are responsible for or aggravate their problems. Despite a premeditated killing plan, the anticipated gain is just psychological or expressive; he (or she) never intends to gain something material from the victims.

In summary, most WMH massacres by employees occur at a time when victims, whom offenders want to target, are present at their workplaces. Other victims are likely to be in the workplace where others are involved in their routine tasks. Supervisors, managers, or executives tend to be among the victims in such environments. Offenders do not necessarily kill themselves after their rampages. A substantial time often elapses between the initial experience of triggering factors and the final decision to commit a workplace massacre.

7. New Trends in WMH by Employees

With analyses of 44 WMH cases and comparisons of them to previous studies on this topic, this research gained several insights and observations into the emerging trends concerning these heinous offenses.

First, the latest cases in WMH by employees involved female offenders. WMH are still a male-dominated type of crime with 95.5 percent (42 cases out of 44), but male offender exclusivity has changed in recent years. In January 2006, Jennifer Sanmarco, a 44-year-old former part-time postal worker, shot and killed a former neighbor and co-worker and then six employees at a large Postal Service distribution center in Goleta, California. She had been released from the U.S. Postal Service in 2003 after six years on a medical disability due to psychological problems. Three years later, she returned to her former workplace and went on a rampage. After the killings, she shot and killed herself inside a mail processing plant. This incident is the nation's deadliest workplace shooting by a woman in a postal installation.

Another case by a female offender occurred in February 2010. Amy Bishop, a 44-year-old biology professor and researcher at the University of Alabama in Huntsville, killed three of her colleagues and injured three others at a staff meeting. Her actions began following her failure to obtain tenure at the university. She was arrested after the shootings. Following her arrest, it was revealed that 24 years earlier she had shot and killed her brother following a family argument.

Family members at the time said the shooting was accidental. In a casual retrospect, the police failed to investigate the earlier incident thoroughly.

Second, in recent years, more professionals are involved in WMH. Traditionally WMH occurred in the blue-collar job type. The current study showed that over 70 percent of cases (31 cases out of 44) were committed in blue-collar workers, while eight cases involved white-collar workers and five cases professional workers. Up until 2007, however, only one case involved professional workers and that was in 1997.

The remaining four cases committed during the three years from 2008-2010, represented a variety of professional and credentialed occupations. These included a university professor, an army psychiatrist, a product test engineer, and a nursing supervisor. It is not known why more professionals have been engaged in WMH in recent years, but it is salient to note this trend in crime within American workplaces.

Third, a more diverse array of workplaces experienced episodes of WMH by employees. This paper showed that while the majority of WMH incidents were still among "business buildings" (29.5 percent) and "factories" (29.5 percent) accountable for over 60 percent together, recent cases have occurred in other types of workplaces. For example, the incident mentioned earlier at the University of Alabama at Huntsville by a non-tenured professor. The Huntsville campus enrolls about 7,500 students

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in northern Alabama. The university, known for its scientific and engineering programs, often works closely with the National Aeronautics and Space Administration (NASA). The space center maintains a research center on the school's campus where many scientists and engineers from NASA's Marshall Space Flight Center perform earth and space science research and development. The campus seemed like an unlikely location for a female professor with an earned doctorate from Harvard University to deliberately shoot dead or injure persons with whom she had worked collaboratively over several years. Earlier knowledge that the professor had killed her brother under poorly investigated circumstances could have established a risk factor that may have been considered at the time of her employment.

As mentioned earlier, another recent case took place at the Army base in Fort Hood, Texas. This base, covering 339 square miles, is the largest active duty Army post in the United States. Home to about 52,000 troops as of early 2009, the sprawling base operates its own fire, police, and medical facilities. The killer, Nadal Hasan, had completed medical school, followed by a residency in psychiatry, received increasing responsibilities, and been promoted along the way. He was an unlikely figure to kill soldiers he lived among and worked with on a daily basis. However, Hasan's political radicalization connected to American military action in Islamic nations, might have been recognized as an indication of instability, and hence a risk to others.

THE REPORT HAS SET OUT TO PROVIDE dimensions of WMH and offenders by examining occupational relationships, distinct characteristics of WMH incidents, and triggering factors. Analyses of 44 WMH cases from 1986 to 2011 confirm the previous research findings in some aspects, diverge from the previous studies in other aspects, and dispel several long-established myths regarding multiple homicides in American workplaces. For similarities with previous studies, this report identified that about 96 percent of offenders are male, confirming previous studies (Duncan, 1995; Kelleher, 1997a). The frequency in the use of a firearm in all cases is unexceptional in earlier research (Duncan, 1995) with this report. Duncan's study reports that 70-90 percent of the WMH had triggering events prior to the killings. The similar observation found in this report that the major triggering factors are termination (61.4 percent) and argument/discontent with supervisors and co-workers (29.5 percent).

In contrast, several findings are inconsistent with previous studies. For instance, while half of work-related homicides occur within 24 hours after a dispute between an offender and a victim (Moracco et al., 2000), this report shows that only about 16 percent (7 cases out of 44) occur within 24 hours. About half are committed more than a year following the precipitating event.

In previous research about 65 percent of the offenders committed suicide right after the massacres. Yet in this report, suicide claimed approximately 47.7 percent (21 cases out of 44) with 6.8 percent (3 cases) being killed by the police. In the other 45.5 percent (20 cases) the offenders survived.

Furthermore, the analyses in this report dispel some myths relevant to WMH. Two salient observations question the significance of past criminal record and drug use. About 73 percent of the offenders (32 cases out of 44) did not have a criminal record before engaging in WMH. Over 93 percent of the offenders (41 cases out of 44) had no history of drug use. These findings are contradictory to conventional wisdom that criminals, including mass killers, have a long criminal history and some history of drug use and dependence (Langan and Levin, 2002; Langan, Schmitt, and Durose, 2003; Karberg and Mumola, 2006). WMH offenders are not career criminals or professional offenders with criminal records and history of drug use. Rather, they are more likely ordinary employees working in the workforce day in and out but with a propensity for lethal violence not readily apparent to others in their circles.

Research findings in this report underscore that the phenomenon of WMH by employees presents inescapable and challenging problems, which each workplace potentially could experience. Several possible preventive measures focus on a management system to

mitigate possibilities of WMH by employees. Clearly, WMH are rare events; homicides in the workplace, less so. Insight on WMH may be more amenable to data collection and analysis than single victim events, and may reflect characteristics different from them.

The incentives for management to mitigate risks, rare as they are from WMH and other forms of workplace violence, are compelling. In organizations that experienced a threat or actually sustained an incident, the consequences were substantial (Nater, 2011). A survey of human resources managers that experienced a threat revealed significantly greater negative impact on moral; negative impact on worker productivity; and negative impact on production or delivery of service. Additionally, these workplaces experienced increased security costs and an increase in disability or workers' compensation claims. Among those, which actually experienced an incident, the effects were even greater.

Mitigating risks in workplace violence prevention and response can be informed by using best practices. In October 2011, ASIS International and the Society of Human Resource Management released a joint Workplace Violence Prevention and Intervention American National Standard (Ahrens, 2011). This is the first standard of its kind, except for the general duty of care requirement governed by the Occupational Safety and Health Administration.

Sensitivity to these rare risks and a shift in management practices can be key factors in mitigating possibilities of WMH. Several guidelines seem obvious: the improvement of security and human resources leadership; circumspection in the hiring of loners or those with behavioral disorders; the principle of “right job, right person”; the transparency of personnel evaluation systems; carefully structured job terminations; and creating a support system for employees dismissed from their jobs.

Transparency and objectivity are critical measures to lessen employee discontent. Job performance evaluation is a sensitive issue for many employees because poor evaluations can lead to demotion or termination. If employees disagree with their evaluation, they often fail to be objective about the finding and blame the evaluators who are mostly immediate supervisors or managers. Disgruntled employees with poor job performance reviews account for a proportion of WMH. Those negative reviews can be a significant factor for employees who become disgruntled. Workers with collective poor reviews are more likely to be terminated. Employees may silently rage about performance judgments made by their supervisors or co-workers. This will be the case particularly when employees receive bad performance evaluations after putatively doing their best to perform their duties.

Some WMH offenders in this report thought that they were unfairly evaluated. For instance, Willie Woods, a radio repairman at the Piper Technical Center in Los Angeles, argued with his supervisors about the negative job performance evaluation he received six months before the massacre. He felt he was treated unfairly and being singled out by his supervisor. Thus, each evaluation should emphasize objectivity and transparency and be presented in a manner which all employees can understand. Surely, this goal is challenging.

A cautious job termination process is advisable. Employers will need to consider short- and long-term security measures. Security and HR personnel need to coordinate responses for terminal interviews with soon-to-depart employees. In some organizations, it would be a best practice to keep the personnel office locked and only open by appointment. Similarly, the security office may be locked and accessible only through a window until the reason for the visit has been determined. Discharged employees returning unexpectedly to the workplace months later represent a potential risk to life.

Access control protocols in such circumstances would be to deny entry to former employees discharged for cause or those who resigned under contentious conditions. The admittance of these fired or disgruntled individuals at the workplace needs to be denied tactfully or authorized after an evaluation of all the related factors for the visit.

Creating a support system for departing employees can be a critical measure to minimize WMH. It is not realistic in current economic conditions for all employees to expect lifetime employment from a single employer. Most U.S. employees work under an at-will employment doctrine (McCrie, 2007). Procedures for job termination and treatment of fired employees can be insensitive, thereby leading the terminated worker to feel badly treated. Resentment and anger grow over time. The workplace should show compassion toward a departing employee, no matter how disappointing his or her performance. The employer may make reasonable efforts to assist him or her obtain employment elsewhere. If so, the terminated worker would be less likely to return later with a gun.

Leadership of managerial personnel should expand not only to oversee employees' job performance, but also to improve the overall working environment and supportive ethos toward employees. A supervisor or manager simultaneously has authority and responsibility. The role of a leader lies in creating and sustaining unity of members; that is, supervisory personnel should make efforts to keep their employees working in harmony, rather than obsessively controlling, criticizing, and monitoring them. Furthermore, leadership should keep an eye on who may be a loner within the workforce. The strategy further should be to prevent a possible loner from being singled out by fellow workers for ridicule and incessant teasing. Teasing and bullying by fellow workers often occurs. Most

workers understand and may accept brief joking at their expense for a passing situational occurrence. However, workers who are asocial and quiet, seldom getting along with co-workers, are particularly vulnerable to experience teasing and bullying. At least three WMH cases had long-term teasing situations that provoked quiet employees to commit atrocious massacres. This is, of course, no excuse for such criminal acts. But alert supervisors and managers need to spot when workplace situational dynamics have veered into dangerous or unproductive grounds.

The principle of "right job, right person" should be practiced more widely. In a blue-collar job, in particular, one requiring a lot of physical labor, as time goes on older employees cannot keep up the pace and proficiency of younger colleagues. If aging workers remain at the same position, they could develop job stress and the workplace may consider firing them due to the decline in productivity. Following a period of declining work performance, Joseph Wesbecker, a 47-year-old printing plant worker, killed seven people on September 14, 1989. In order to reduce job stress of employees and to improve productivity, it would be best to practice the principle of "right job, right person." Employees in such an environment are given the right position corresponding with their age and ability, an arrangement that changes as cognitive and physical abilities decline. Productivity, therefore, is proportionate to ability.

Future Research Needed

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The major managerial issues in research of this sort are difficult. How could such future murderous workers be screened-out in the first place? Could the use of behavioral psychometric instruments have mitigated risks? Worker performance in many of these cases was unsatisfactory. How can the workplace terminate poor performers while lowering the possibility of imminent or eventual lethality from those who are dismissed? How can security protocols be more reliable in preventing disgruntled workers from successfully returning to their place of work even many months following their discharge?

In addition, it could be useful and insightful to make a comparison with other countries. Do such workplace homicides happen in other countries? Is WMH by employees a uniquely American phenomenon? If it is, what is the role of guns in WMH by employees?

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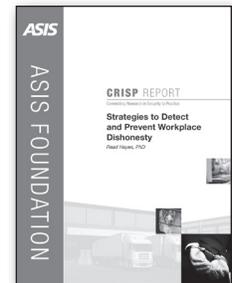
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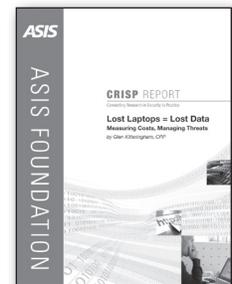
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Lost Laptops=Lost Data: Measuring Costs, Managing Threats

Glen Kitteringham, CPP

Replacing stolen laptops is just the start: lost productivity, damaged credibility, frayed customer relations, and heavy legal consequences can cripple your organization. This report reveals seven steps to protect laptops—and data—at the office, on the road, or at home. You get practical checklists and classification schemes to help determine adequate levels of data protection. Plus physical, electronic, and security measures you can immediately implement.



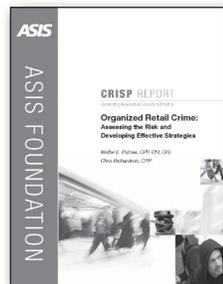
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Additional CRISP Reports

Organized Retail Crime: Assessing the Risk and Developing Effective Strategies

Walter E. Palmer, CPP, CFI, CFE
Chris Richardson, CPP

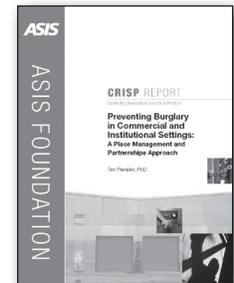
This CRISP report invites retailers to take a critical look at their handling of Organized Retail Crime (ORC). Chris Richardson and Walter Palmer combine their extensive experience of advising retailers on how to manage security risks with a very helpful summary of previous research, to stimulate thinking on how best to respond to ORC. Their starting point is that retailers and any others involved need to be clear about the type of ORC problem they are facing and its drivers, as well as the types of measures that are already in place that can be marshalled as part of an overall approach to making a response effective. They unpick the merits and limits of different types of security and offer a number of frameworks to guide practitioners. In so doing it is likely that this paper will become one of the essential reference points for those who need to tackle the ORC threat.



Preventing Burglary in Commercial and Institutional Settings: A Place Management and Partnerships Approach

Tim Prenzler, PhD

In this report Tim Prenzler, PhD, looks at how to assess, manage, and respond to burglaries that occur at commercial and industrial sites. While there is a considerable amount written about domestic burglary, research is less in evidence when the locale is non-residential. His report looks at the context in which burglaries occur, and includes a consideration of the burglar's approach. He examines a range of solutions, which aim to make it more difficult for would be offenders particularly in the workplace, and he shows where security managers can have an impact. Drawing together a range of data, he looks at approaches from different levels, from the police, the government, and from those closer to the offence, the "place managers." Those charged with preventing burglary at commercial and institutional settings now have a source of information, which connects research to practice to guide them in their prevention strategies.



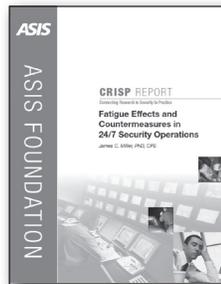
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Additional CRISP Reports

Fatigue Effects and Countermeasures in 24/7 Security Operations

James C. Miller PhD, CPE

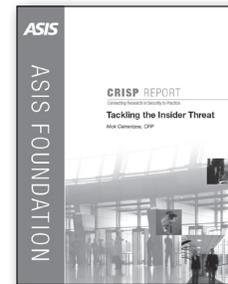
Humans are not biologically wired to work at night. Speed and accuracy on the job are only above average between 7:00 a.m. and 7:00 p.m. Come nightfall, efficiency and productivity decrease and safety risks rise. In *Fatigue Effects and Countermeasures in 24/7 Security Operations*, author James C. Miller Ph.D., CPE, explores the effects of fatigue and night work on human cognitive performance and offers countermeasures that may be used to combat these effects. Miller's research draws from both experimental and field studies conducted with police and others who work evening and rotating shifts, as well as fatigue research conducted by the Department of Defense. The report provides relevant information for security personnel and police in general, especially those who work at night.



Tackling the Insider Threat

Nick Catrantzos, CPP

While malicious insider incidents remain statistically rare, they are potentially devastating to any institution with critical assets to defend. In *Tackling Insider Threats*, author Nick Catrantzos, CPP, combines a review of the insider threat literature with findings of a Delphi study to arrive at a new approach to defeating the kind of trust betrayer intent on carrying out catastrophic attack to the organization. His insights align with those who advocate the importance of a positive security culture, as he supports a greater role for engaging staff meaningfully in the protection of the organization. His approach, termed 'no dark corners' draws upon a range of others from security practice, and his findings will invite many to critically assess whether they are doing all they can in the best way, to manage different types of insider threat.



These reports are available on the ASIS Foundation website, www.asisfoundation.org.



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