Journal of Applied Social Science

Applications of Forensic Sociology and Criminology to Civil Litigation Daniel B. Kennedy Journal of Applied Social Science 2013 7: 233 originally published online 12 April 2013 DOI: 10.1177/1936724413477752

> The online version of this article can be found at: http://jax.sagepub.com/content/7/2/233

> > Published by:

http://www.sagepublications.com

On behalf of: Official Journal of the Association for Applied Social Science

Additional services and information for Journal of Applied Social Science can be found at:

Email Alerts: http://jax.sagepub.com/cgi/alerts

Subscriptions: http://jax.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

Citations: http://jax.sagepub.com/content/7/2/233.refs.html

>> Version of Record - Jul 30, 2013

OnlineFirst Version of Record - Apr 12, 2013

What is This?

Applications of Forensic Sociology and Criminology to Civil Litigation

Journal of Applied Social Science 7(2) 233-247 © The Author(s) 2013 Reprints and permissions: sagepub.com/journalsPermissions.nav DOI: 10.1177/1936724413477752 jax.sagepub.com



Daniel B. Kennedy^{1,2}

Abstract

Social scientists play an increasingly important role in the prosecution and defense of both criminal and civil matters before the courts. An expanding area of forensic sociology and criminology involves the analysis of crime foreseeability and security standards of care as they relate to the question of liability for negligent security. Criminologists analyze prior crimes at a location and consider the totality of circumstances in order to determine foreseeability. If there is a duty to provide security, the efficacy of these measures is then considered. Forensic sociologists and criminologists also examine liability issues pertaining to workplace violence and personnel administration. Levels of analysis appropriate for courtroom testimony are discussed.

Keywords

Social fact research, premises liability, tort, workplace violence, crime foreseeability, predatory attacks, proximate cause, negligence

Introduction to Forensic Sociology and Criminology

Although perhaps unnoted by many in academe, social scientists are playing an increasingly important role in the prosecution and defense of both criminal and civil matters before the courts (Petherick, Turvey, and Ferguson 2010; Thoresen 1993). In a recent issue of this journal, sociologists Hirsch and Quartaroli (2011) described in detail their research and consultation on behalf of a civil litigant who believed his civil rights were violated when he was denied the right to speak at a public candidates' forum. Included in his case was a request for compensation for the damages done to his reputation by his arrest and subsequent prosecution. Hirsch and Quartaroli randomly sampled voters in the plaintiff's political jurisdiction and surveyed their attachment of stigma to his candidacy. This original research was designed to help resolve a legal dispute and can be classified as "social fact" research, wherein social science is used to provide adjudicative facts (Monahan and Walker 2006). Other examples of this type of contribution include litigation-related research on trademark violations and obscenity (Monahan and Walker 1988).

Sociologists and criminologists have also been increasingly active in the provision of social science knowledge utilized to make both statutory and case law. Dating back to the "Brandeis" briefs of the early twentieth century, social scientists have been influential through their "social

Corresponding Author: Daniel B. Kennedy, Oakland University, 2200 N. Squirrel Road, Rochester, MI 48309-4401, USA. Email: dbkenned@oakland.edu

¹Oakland University, Rochester, MI, USA

²Forensic Criminology Associates, Troy, MI, USA

authority" research and service as expert witnesses in litigation involving desegregation (Kalmuss, Chesler, and Sanders 1982; Wolf 1976), equal treatment notwithstanding race (McArdle 2008), or gender (Bielby and Coukos 2007; Fiske et al. 1991) and capital punishment (Wolfgang 1974), to name but a few examples.

Although psychologists have in the past been the social and behavioral scientists most often associated with trial practices (Brodsky 2009), sociologists are increasing their involvement in litigation planning as well (Monahan and Walker 2006). For example, sociologists have been retained by litigants to conduct change-of-venue research (Richardson et al. 1987), establish emotional damages (Mulkey 2009), and advise on ongoing trial tactics (Moore and Friedman 1993). In one case, sociologists made significant contributions to juror understanding of "specific intent" criminal action based on classic social psychology literature (Peyrot and Burns 2001). Hans Zeisel would be proud.

Another major category of sociological and criminological contributions to litigation has come to be known as "social framework" research and expert testimony. These contributions provide a jury with the benefit of mainstream social science research about a subject pertinent to their deliberations. Where appropriate, judge and jurors may then apply this social context knowledge to the facts of the case at hand. For example, a jury may hear from experts on the fallibility of eyewitness testimony (Loftus 1996) or the conditions under which false confessions may be elicited (Leo 2008) before deciding in a particular case whether there was an eyewitness error or whether an interrogator overstepped his or her bounds. The importance of these considerations is obvious in criminal matters. There are also significant financial considerations involved in civil litigation for wrongful conviction (Forst 2004; Garrett 2011).

The purpose of the analysis to follow is twofold. First, I expand on the notion of social framework evidence to discuss, specifically, the burgeoning litigation centering on premises liability for negligent security (Kennedy 2006). As modern populations spend more time on "mass private property" (Shearing and Stenning 1983), more people are subject to stranger-on-stranger victimization by robbery, assault, rape, and murder. To the extent a commercial landholder was negligent in providing reasonably appropriate security, said landholder may be liable in tort for compensatory and punitive damages (Carrington and Rapp 1991; Homant and Kennedy 1995; Kaminsky 2008). Second, as will become apparent, sociologists and criminologists may play an integral role as experts in establishing or refuting the elements of tort that control a case as it moves through the litigation process. To be reasonably effective, the forensic sociologist/criminologist must understand the potential for professional role conflict or role strain during service as a consulting or testifying expert. An effective expert must also consider what theoretical levels of explanation are most appropriate for lay juries. An overarching concern for any reputable social scientist would also include broader policy implications of the sociological/criminological testimony placed in evidence as well as overall case outcomes. Given space limitations, my intention herein is more to introduce rather than to resolve certain of the applied social science issues inherent in the adversary system that characterizes common-law countries.

Forensic Criminology in Premises Security Litigation

Legal Backdrop

Although most forensic sociologists and criminologists are not lawyers, it would behoove them to know something about civil law to maximize their contributions and minimize any confusion. Although a thorough discussion of legal precepts is beyond the scope of this analysis, there are a few fundamentals with which I believe forensic criminologists should be familiar.

Whereas crime and guilt are the foci of criminal forensic criminology, tort and liability are the foci of civil forensic criminology (Kennedy and Sakis 2008). Basically, a tort is a civil wrong, a noncontractual civil liability. One may injure another or do a wrong to another by failing to act reasonably when there is a duty to do so or by acting unreasonably when one should not. Although these are certainly not formal legal definitions of negligent or intentional torts (Keeton et al. 1984), the idea behind both is that when an individual or a government acts negligently so as to cause unjust harm, this harm must be compensated for, generally in the form of monetary damages. Because issues in tort litigation may involve the failure of a landholder or employer to protect against criminal behavior or may involve the actions of private security personnel, the insights provided by forensic criminology in the form of expert reports and testimony can be of crucial assistance to judicial and jury decision making. For example, an apartment complex may be sued because a woman who was assaulted in her unit believes the premises were inadequately secured (Kennedy and Hupp 1998). Legal developments pertaining to workplace violence may also allow an employer to be sued under certain conditions for acts of violence directed against employees (Perline and Goldschmidt 2004; Schell and Lanteigne 2000) or for acts of violence committed by employees.

Basically, forensic criminologists are utilized as liability experts rather than damages experts, even though they may be quite familiar with the directly related field of victimology (Karmen 2010; Stark and Goldstein 1985). As liability experts, forensic criminologists may be expected to opine on questions of crime foreseeability, and security, police, and corrections standards of care in light of this foreseeability. The causal relationship between any alleged breach of standards and the damages suffered by a plaintiff may also be addressed by the forensic criminologist. These three areas of input correspond directly to three of the four basic elements of a tort: duty (of which foreseeability is an integral element), breach of duty (failure to act reasonably or to follow a recognized standard of care), and causation (whether proximate cause or cause-in-fact). Highly readable discussions of the origins of security-related law may be found in texts written primarily for attorneys (Page 1988; Tarantino and Dombroff 1990) and legal tracts written more specifically for the private security sector (Bilek, Klotter, and Federal 1981; Hannon 1992; Inbau, Aspen, and Spiotto 1983; Pastor 2007). Bottom (1985) authored what may be the first comprehensive textbook to address security malpractice issues and illustrates his analyses through the presentation of several case studies. Other excellent compendia of security-related premises liability cases are also available (Ellis 2006).

On another note, it is important for the forensic criminologist to remember that each of the 50 states may have different statutory and case law that bears upon security issues. Federal courts will also draw from federal statutory and case law as well as evidentiary issues pertinent to cases within their jurisdiction. Established precedent may include definitions and tests of foreseeability, observations on the reasonableness of security measures in given situations, and controlling opinions on causation. Although there is general consistency across the country, new cases in each state may arise from time to time, and these cases may have an impact on the litigation in which the forensic criminologist is consulting. Obviously, the retaining attorney should be queried as to these matters. In the sections that follow, I present typical forensic scenarios and the legal frameworks within which forensic criminological expertise has been applied.

Predatory Attacks

By way of example, a common scenario leading to litigation involves the robbery or abduction of a female from a large, retail store parking lot or parking garage. Although it may seem that the number of incidents in parking areas is disturbingly high, sociologists and criminologists must also be prepared to point out that at least 350 million pedestrian trips through parking facilities are made each day (M. Smith 1996). Whenever possible, the number of criminal incidents at a given property should be evaluated in the context of the number of persons at risk within the same time period.

Some parking areas will be more dangerous than others, depending on location, history, characteristics of facility users, and the real or perceived efficacy of security measures. Forensic criminologists asked to explain the level of crime in certain facilities have pointed to the notion of "critical intensity" to explain victimization in large, retail center parking lots and the concepts of prospect, refuge, and escape to explain crime in parking structures. Critical intensity is that tipping point where there are enough potential victims in a parking lot to attract predators but not enough potential victims or witnesses to deter these predators. Prospect refers to the limited surveillance capacity available to a pedestrian in a parking garage. There are also multiple criminal hiding places (refuge) in a garage and fewer escape routes feasibly open to a potential victim (Kennedy 1993).

Regardless of the type of parking facility, which is the focus of premises liability litigation, plaintiff and defense forensic security experts and forensic criminologists will be expected to address three basic issues. First, foreseeability will be addressed generally from a prior, similar acts perspective or from a totality of the circumstances perspective. Second, based on the level of foreseeability, or its absence, experts must establish the reasonableness of then extant security measures to determine whether appropriate standards of care were breached.

Finally, experts may sometimes opine as to whether any such breach of duty was a proximate cause and cause in fact of injuries suffered by the plaintiff (Kennedy 2006). Thus, if a female shopper is attacked in a parking lot that has seen several prior muggings, there may be a duty to warn her or to remedy the problem through appropriate security measures. While plaintiff attorneys will often attribute the attack to a dearth of security patrols, poor lighting, or the absence of closed-circuit television (CCTV), defense attorneys can point to a substantial body of accumulating research that questions the presumed effectiveness of these measures in deterring violent crimes (Welsh and Farrington 2003, 2009). Inconsistent findings in the general crime prevention literature can only be resolved in a case at bar through a close examination of the unique circumstances of a specific property, its particular history, and other issues special to the site. Certainly, the dynamics of the unique criminal event itself must be considered as well.

Unfortunately, other land uses are sometimes associated with predatory attacks. Because millions of citizens, many of them women, reside in large apartment complexes, sexual assaults associated with burglaries are not infrequent. Home invasions for the purposes of robbery are also occurring around the country. An early premises liability case, known as *Kline v. 1500 Massachusetts Avenue Apartment Corporation* (1970), established a duty on the part of landholders to provide reasonable security for the common areas of a multioccupancy property. Thus, property owners and their management companies are regularly named as defendants in premises liability lawsuits alleging negligent security measures (Kennedy and Hupp 1998).

Once again, the question of foreseeability arises immediately. Section 8 properties, public housing, and market rental complexes in lower income neighborhoods often suffer unfortunate patterns of interpersonal violence and property crimes (Suresh and Vito 2009; Wenzel et al. 2006). Although a certain amount of this violence is of a domestic nature and not reasonably attributable to management practices, forensic sociologists and criminologists have argued that improved tenant selection practices and aggressive lease enforcement can significantly improve the security of a property (Clarke and Bichler-Robertson 1998; Sampson 2001). Questions of physical security such as the trimming of foliage, illumination levels, key control, and the efficacy of fencing and gating frequently arise. Where sexual assault is the crime

that originally generated the lawsuit, rapist typologies are often introduced into legal discussions by forensic criminologists and psychologists (Fradella and Brown 2007). Essentially, there is a causal argument that suggests that rapists will be differentially deterrable based on their classification as anger rapists or power rapists, for example, or whether they could be characterized as disorganized or organized perpetrators (Crabbe, Decoene, and Vertommen 2008; Hazelwood and Burgess 1999; Keppel and Walter 1999). Again, while much in the psychological and criminological literature can be helpful to a jury as "social framework" evidence (Monahan and Walker 1988; Monahan, Walker, and Mitchell 2008), each case must be judged on its own merits with an understanding that properties, victims, and criminals are unique in their own ways.

Interpersonal Disputes

The proliferation of mass private properties has led to an increase in interpersonal altercations that often result in serious injuries or even death. As commercial landlords develop huge business, entertainment, and retail properties (Shearing and Stenning 1983), millions of people each year find themselves in the proximity of strangers representing all walks of life and a multitude of age and ethnic groups. From time to time, conflict is inevitable. A regional shopping mall, for example, can draw more than 10 million shoppers each year, including many young people who are more interested in socializing than shopping. Food courts can become the venue for group fights, arcades the hunting ground for pedophiles, and parking lots the place for a parade of flashers.

As criminologists and sociologists have predicted, when motivated offenders and suitable targets come together in space and time, in the absence of capable guardians, crime is a foreseeable occurrence (Cohen and Felson 1979; M. Felson and Boba 2010). Because this crime may take place on a large commercial property owned by a "deep pockets" commercial landlord, the possibility of liability immediately presents itself. In earlier days, smaller merchants sold their wares from much smaller properties; and visitors to shopping areas spent much of their time on public streets, leaving no identifiable landlord to sue for failing to protect one prospective invitee from another or from a criminal trespasser. In this day and age, however, a private entity often owns or manages the property on which much leisure time is spent, thus allowing for third-party lawsuits for tortious injuries. It is the role of the forensic criminologist to determine whether a pattern of prior disturbances or crimes existed, which should have put the commercial landholder on notice that business invitees were in need of protection. The existence of a sufficient number of employees and/or effective security measures to protect these invitees or warn them of the dangers must then be assessed. Whether the injuries sustained during interpersonal violence were causally related to the condition of the property must also be determined, ultimately by a jury, of course, but often armed by one opinion or another from a civil forensic criminologist at trial. Even if a civil suit settles before a trial, which is a far more likely outcome, forensic criminologists and forensic security experts have often helped to shape much of the settlement discourse between plaintiff and defense attorneys.

Of course, interpersonal disputes can take place on the premises of businesses, which long preceded the advent of mass private property. For example, drinking establishments such as bars and nightclubs have generated a great deal of litigation sparked by alcohol-fueled violence. Criminologists and other social and behavioral scientists have built a substantial literature on the relationship between alcohol and violence (R. B. Felson and Staff 2010; Graham and Homel 2008; Greenfield 1998; Hughes et al. 2008; Saitz and Naimi 2010). The past few decades have also seen solid research on methods of preventing barroom violence. Responsible alcohol service training programs, bartender and doorman training, and an understanding of the

pejorative influences of toxic environments (heat, noise, smoke, crowding) have all been helpful in reducing violence among bar patrons (Graham et al. 2006; Roberts 2007). A number of ethnographies and manuals for bar employees charged with "keeping the peace" have also contributed to the abilities of innkeepers and publicans to offer safer establishments for young revelers (Graham 1999; McManus and O'Toole 2004; Rigakos 2008; Scott and Dedel 2006).

Criminological research has illustrated the nature of intermale aggression as involving challenges to and defenses of "face." In many such disputes, there is a discernible escalation of violence potential as each disputant repudiates the other's insults until violence becomes the next alternative (R. B. Felson 1982; Luckenbill 1977). It is during this escalation that bar security must intervene and divert the attention of potential pugilists from each other. Failure to detect readily audible or visual signs of a developing altercation can lead to liability on the part of a liquor or gaming establishment. In other words, if bar or casino security personnel were or should have been in a position to detect signs of an escalation of threats and yet failed to intervene, they were on imminent notice of a danger to patrons and failed to take reasonable action to prevent injury. Obviously, if an establishment is so overcrowded that monitoring is difficult and getting to the scene of a dispute even more so, then a liability argument also exists. Even if security is able to intervene in a dispute in a timely fashion, the standard of care has evolved from the days when a bartender could simply declare, "Take it outside." It is now more appropriate for security personnel to separate combatants, isolate them from each other, and evict them through different doors at different times. The idea, of course, is to take reasonable steps to discourage the fight from reigniting outside yet still on the premises of the business. A landholder's obligation to an invitee does not automatically end when he walks out the door but generally when he leaves the property altogether. In some cases, however, a landholder may be expected to provide reasonable security where many guests are known to park even if such parking area is not owned by the principal landholder. Note the importance of the word "reasonable" in all the above scenarios, as no landholder is expected to guarantee the safety of an invitee or licensee.

Workplace Violence

The problem of workplace violence first took its place in the American psyche in a very dramatic fashion. One day in August of 1986, a U.S. Postal Service employee by the name of Patrick Sherrill came to work with two .45 caliber pistols and murdered 14 of his coworkers. He also wounded 6 others before finally killing himself. Since that fateful day, numerous mass shootings have taken place at workplaces, restaurants, schools, shopping centers, and other venues. A significant literature has evolved to describe and explain these rampage shootings. While some professional thinking on the subject focuses on the shooter's workplace as a violence-generating organization (Denenberg and Braverman 1999; Homant and Kennedy 2003; Kennedy, Homant, and Homant 2004), other approaches focus more on the personal characteristics of the individual as central to the explanation of multicide (Dietz 1986; Fox and Levin 2007; Holmes and Holmes 2000; Meloy 1997). The workplace killer is often motivated by a narcissistic injury that he takes as the final insult in a long series of injustices foisted upon him by an organization and the people within it which he believes have betrayed him (Baumeister 2001; Cale and Lillienfeld 2006; Cartwright 2002). Forensic criminologists are often called upon to consider whether such an extreme reaction on the part of the shooter was foreseeable and whether it could have been prevented. Over the past 25 years, however, criminologists have realized that workplace violence is far too complex to be analyzed as a homogeneous topic. In reality, workplace violence across the United States is somewhat quotidian in nature and comprised basically four types of mundane crimes (Loveless 2001).

Type I workplace violence involves robbery of a workplace and leads more often to worker death than other forms of workplace violence. For example, in 2008, 526 workplace homicides occurred, most of which involved retail clerks or other workers serving the public where cash was involved. Notably, the number of workplace murders was down from about 900 work-related homicides occurring between 1993 and 1999. During this same period, 1.7 million violent assaults were also perpetrated against persons 12 or older who were at work or on duty (Duhart 2001). Overall, about 85 percent of all workplace murders occur during robberies.

Type II workplace violence involves attacks by customers, patients, passengers, students, or others who vent their anger on workers attempting to provide them a service or care for them in some way. About 3 percent of workplace homicides are so classified. Type III workplace violence involves worker-on-worker attacks, some of which result in death but most of which are far less serious in nature. About 7 percent of workplace murders stem from worker-on-worker violence. Type IV workplace violence is a form of domestic violence wherein a former intimate comes to the workplace and assaults a worker on the job. The workplace is often chosen as the site of the attack because the estranged attacker knows where his victim will be and when she will be there (there are, of course, a not insignificant number of instances when a male will be the target). About 5 percent of work-related murders may be placed in this category.

Given the four types of workplace violence introduced above, it is obvious that the role of forensic criminologists in case analysis will vary depending on the nature of the events in question. It is also important to note that workers' compensation laws across the United States limit the ability of workers to bring lawsuits against their employer for injuries sustained while at work. The injured employee will generally have to prove gross negligence on the employer's part or, perhaps, link the injury to some form of gender discrimination. Although more and more exceptions to workers' compensation as an exclusive remedy are appearing on the legal landscape (Sakis and Kennedy 2002), statutory roadblocks to employee litigation remain formidable. Nevertheless, workplace violence continues to generate a considerable amount of litigation.

When retail clerks are murdered on the job, it is not unusual for their grieving families to blame store management for their deaths. Convenience store robberies have been the subject of much research as has the efficacy of robbery prevention measures (Altizio and York 2007; Erickson 1998; Hunter 1999; Loomis et al. 2002). Unless plaintiff experts can establish that a robbery or injury was virtually certain to occur, and wholly inadequate preventive measures were nonetheless in place, however, a negligent security lawsuit is likely to fail due to worker compensation exclusions.

In an attempt to escape limitations on liability imposed by workers' compensation laws, worker victims have often sued other entities in some way connected to the security or other operations of their workplace. Thus, bank tellers have successfully sued a camera installation company and office workers have sued office cleaning companies or other vendors. It is becoming increasingly common for victims of Types I–IV workplace violence to sue contract security companies for somehow failing to prevent an irate patient or armed student from entering the premises. Security officers at manufacturing facilities have been accused of failing to prevent armed workers from entering a plant and shooting ex-lovers and former supervisors. While the actual connection of these third-party defendants to the violence that precipitated the litigation is often tenuous, what is known as the "sympathy factor" can never be discounted. Thus, some juries will award damages to plaintiffs for whom they feel sorry even where foreseeability, violation of a standard of care, and causation seem quite difficult to establish. Likewise, cases have been lost because jurors find a defendant more to their liking than a particular plaintiff. Such

examples of "jury nullification" are to be found as readily in civil litigation as in criminal prosecution or perhaps even more so (A. Smith 2004; Wrightsman 2001).

Finally, no discussion of workplace violence liability can be complete without mention of violence by employees directed at their customers, patients, students, coworkers, or others with whom they come into contact. Unless a defendant employer can establish that certain interactions are clearly "beyond the scope of employment," I have seen employers sued when their employees attacked a fast food customer; sexually assaulted a student, patient, or guest; misrepresented security levels at a property; and when workers have murdered coworkers. Employers have also been sued for the actions or inactions of independent contractor employees such as housekeeping personnel and security personnel under the notion of "nondelegable duty." In other words, a landholder's responsibility for the security of invitees cannot be simply delegated away to some contracted organization. Ultimate responsibility in this regard remains with the landholder.

Personnel Issues

Forensic criminologists are generally not lawyers and are not retained for legal opinions. Even so, their efforts can be utilized more efficiently if they have a working knowledge of the legal context in which their criminological expertise is sought. For example, although a store detective who makes a false arrest without protection of "merchant's privilege" can expose his employer to vicarious liability through the doctrine of *respondeat superior*, an employer may also be found to be directly negligent based on its own negligent actions rather than because of its servant's actions. An employer can be held liable for administrative negligence if it can be shown through a preponderance of the evidence that the employer negligently hired, trained, supervised, assigned, entrusted, or retained an errant servant. Negligent "failure to direct" is yet another example of administrative negligence (Pastor 2007; Schmidt 1976).

Sociologists and criminologists can shed much light on various issues of administrative negligence. With regard to the question of negligent hiring, it is axiomatic that sensitive jobs granting access to valuables or vulnerable individuals require more screening. However, it is against public policy and even the law in some states to automatically exclude an individual from employment consideration because of a prior conviction unrelated to the type of job sought. Variables such as age at conviction, years since conviction, and more current accomplishments should be considered. Current research on criminal redemption, for example, demonstrates that an individual with a certain type of prior conviction poses no greater risk than another potential employee once a specific number of crime-free years have passed (Blumstein and Nakamura 2009). A knowledge of criminal desistance based on life events such as military service, marriage, and the assumption of other responsibilities should also inform employment decisions (Kazemian 2007; Sampson and Laub 1995; Warr 1998).

Negligent training can be argued in cases of false arrest, use of force, and a variety of additional job failures with liability potential. Functional task analysis can generally identify the specific job responsibilities and skill sets required to perform employee responsibilities. With regard to security personnel, for example, forensic criminologists can readily access a significant literature on training for police roles and identify those skills that are particularly relevant to the job of a security officer. Just as importantly, task analysis can also identify those parts of a security officer's job that are not expected to parallel police actions.

Early sociologist Max Weber established many of the principles of bureaucratic management and supervision that apply with equal force today. Along with Henri Fayol, Weber taught the value of clear definitions of authority and responsibility. The importance of chain of command, unity of command, span of control, written records, and formalized policies, procedures, and rules can be readily explained where these questions and their answers can inform a civil jury on ultimate issues (Leonard and More 2000; Souryal 1981).

Negligent assignment and negligent entrustment are related issues. Assigning a security officer who is hard of hearing to a night watchman's role or assigning a security officer with a limited command of English to a call-taker and dispatcher position could have unfortunate consequences. Entrusting the master keys to an apartment building's residential units to a new employee who has not been vetted for such a responsibility is highly inappropriate. Likewise, providing a company vehicle to an employee with multiple drunk driving convictions can lead to employer liability in the case of an accident.

Negligent retention occurs when an existing employee behaves badly on the job and is inadequately disciplined, thus encouraging more bad behavior, or is not fired even though the gravity of his act clearly called for his termination. A somewhat parallel situation occurs when a landlord becomes aware that a tenant in his apartment building poses a threat to other tenants, and no action to investigate or evict is taken by the landlord. In both instances, a crime victim can argue that the employer (or landlord) was on specific notice of a dangerous situation which only he had special knowledge of and the particular power to rectify. The crucial analytical task for the forensic criminologist here would be to assess whether the employee's or the tenant's bad behavior should have foreshadowed a subsequent criminal attack. Of course, such an analysis must avoid the hindsight bias known as "omen formation" or retrospective presifting (Azarian et al. 1999; Terr 1983).

Negligent failure to direct involves the failure of management to establish and promulgate clear policies and procedures to guide the actions of its employees. Although security personnel must be allowed to exercise discretion in the performance of their duties, unbridled discretion can lead to disaster (Davis 1969). Where possible, appropriate responses to likely scenarios must be anticipated and communicated to line personnel. Although some line personnel may resent management incursion into their day-to-day decision making, an organization's need for fairness and consistency in dealing with its constituency is paramount. This is particularly so in the administration of private and public systems of justice.

The above seven examples of administrative negligence are not meant to be static and all inclusive. As society evolves, so too will the public and organizational behavior, which is considered "reasonable under the circumstances." Thus, new forms of negligence are likely to arise, and forensic criminologists must be cognitively flexible to assess these possibilities. For example, some jurisdictions have entertained the notion of "negligent referral," where management provides an employee with a good character reference to rid itself of him even though the employee may be dangerous to others (Ashby 2004; Belknap 2001). This has happened in cases of pedophilic schoolteachers and violent corporate administrators. The consequences of such questionable actions in terms of both human suffering and legal liability can be severe.

Professional Roles and Related Considerations

Whether on the stand at trial or seated in the witness chair during deposition, the expert criminologist must understand his or her role in the adversary system. The fundamental purpose of the expert is to assist the trier of fact, be it judge or jury, in deciding the issues of a given case by providing technical opinions on subject matter considered to be beyond the realm of common knowledge. Sociologists and criminologists are not at trial to argue a position as advocates but rather to explain an opinion as dispassionate teachers. Because there are already several excellent treatises that address expert roles, role conflict, and role strain (cf. Anderson and Winfree 1987; Evans and Scott 1983; Jenkins and Kroll-Smith 1996; Thoresen 1993; Thornton and Voigt 1988; Winfree and Anderson 1985), I will limit my comments to just three considerations evident from my own forensic practice: legal and technical concerns, levels of analysis, and implications for public- and private-sector policy outcomes.

Before agreeing to serve as forensic experts, sociologists and criminologists must familiarize themselves with legal and technical expectations attendant to their role as experts. First and foremost, criminal and civil courts expect to hear from competent experts who will provide testimony that is both relevant and reliable (read valid) and who will bring to the stand the same circumspection they would apply in the laboratory, the classroom, or at a presentation to their colleagues. Virtually every expert should consider whether his or her contributions would thus comport with the expectations expressed in the U.S. Supreme Court cases of *Daubert v. Merrell Dow Pharmaceutical* (1993) and *Kumho Tire Co. v. Carmichael* (1999). Fortunately for those of us in the social sciences, our forensic colleagues have carefully explained the impact of these cases on the admissibility of social science evidence in general (Buchman 2007; Faigman and Monahan 2005; Mark 1999; A. Smith 2004; Tenopyr 1999) and on premises security cases in particular (Bates and Frank 2010; Calder and Sipes 1992).

Service as a forensic sociologist and criminologist requires more than just a command of our disciplines. While academics may rule the classroom, the courtroom is another matter. Although direct examination by the retaining attorney is somewhat predictable, cross-examination by the opposing attorney can be an unpleasant experience given that the cross-examiner's role is either to discredit the expert's professional competence, or his or her opinions, or both. Fortunately, the stress of this experience can be substantially relieved by preparation. Effective lawyers will advise their experts what tactics they may encounter on the stand (Gordon 2005; Hilliard 2011; Malone and Zwier 1999), and seasoned social science experts offer copious advice on how to deal with aggressive and sometimes offensive cross-examination (Brodsky 1991, 2004; MacHovec 1987; Sales and Shuman 2005).

Having addressed both legal expectation and the tactics of testimony, some comments on the content of expert opinions are appropriate. Obviously, sociological or criminological testimony should reflect mainstream disciplinary knowledge. Where minority opinions are taken, this qualification should be noted along with an explanation as to how the opinion is justified by the circumstances concerning the given case at bar. Of particular relevance to the efficacy of expert opinion is the scope or level of theory to be applied. Talk of grand theory is received quite lukewarmly in the lawyer's office and would fall flat at trial. Explanations should begin with middle-range theories and evolve toward substantive theories or ad hoc explanations of the social framework within which the behavior of concern was nested (cf. Blaikie 2000; Bourgeois 1979; Merton 1968). Juries are best approached in a manner appropriate for an introductory survey course rather than as one might teach a graduate seminar for aspiring sociologists and criminologists. Experts must beware of being caught up in professional jargon or statistical elaboration lest they lose the attention of jurors and judges alike.

Finally, forensic experts should be aware of the importance of case outcomes to public policy as well as to private-sector business and security practices. Obviously, where loss of life is attributed by a jury to such practices as hot pursuit (Alpert and Dunham 1990; Kennedy, Homant, and Kennedy 1992), arrest procedures (Chan, Vilke, and Neuman 1998), or the use of inappropriate force options, responsive police and security agencies may adjust their policies accordingly. Jury awards in the millions of dollars have been directly responsible for the application of a broad range of preventive security measures in hospitality, retail, multihousing, and academic settings (cf. Ellis 2006). Sociological and criminological expertise has played a role in these positive developments and will, no doubt, play an ever-increasing role as evidenced by the obvious quality and widespread popularity of the journal *Criminology & Public Policy*. By their willingness to serve as forensic experts in both criminal and civil litigation, applied social scientists continue

to use the sociological perspective to enhance human social life through the resolution of legal conflict.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

References

Alpert, G. and R. Dunham. 1990. Police Pursuit Driving. New York: Greenwood Press.

- Altizio, A. and D. York. 2007. Robbery of Convenience Stores. Washington, DC: U.S. Department of Justice.
- Anderson P., and L. Winfree, eds. 1987. Expert Witnesses: Criminologists in the Courtroom. Albany: State University of New York Press.
- Ashby, J. 2004. "Employment References: Should Employers Have an Affirmative Duty to Report Employee Misconduct to Inquiring Prospective Employers?" *Arizona Law Review* 46:117–49.
- Azarian, A., T. Miller, L. Mckinsey, V. Skriptchenko-Gregorian, and J. Bilyeu. 1999. "Trauma Accommodation and Anniversary Reactions in Children." *Journal of Contemporary Psychotherapy* 29:355–68.
- Bates, N. and D. Frank. 2010. "Premises Security Experts and Admissibility Considerations under Daubert and Kumho: A Revised Standard." Suffolk Journal of Trial & Appellate Advocacy 15:179–208.
- Baumeister, R. 2001. "Violent Pride." Scientific American, April, pp. 96-101.
- Belknap, J. 2001. "Defamation, Negligent Referral, and the World of Employment References." Journal of Small and Emerging Business Law 5:113–34.
- Bielby, W. and P. Coukos. 2007. "Statistical Dueling' with Unconventional Weapons: What Courts Should Know about Experts in Employment Discrimination Class Actions." *Emory Law Journal* 56:1563–612.
- Bilek, A., J. Klotter, and R. Federal. 1981. Legal Aspects of Private Security. Cincinnati, OH: Anderson Publishing.
- Blaikie, N. 2000. Designing Social Research. Cambridge: Polity Press.
- Blumstein, A. and K. Nakamura. 2009. "Redemption in the Presence of Widespread Criminal Background Checks." Criminology 47:327–59.
- Bottom, N. 1985. Security/Loss Control Negligence. Columbia, MD: Hanrow Press.
- Bourgeois, L. 1979. "Toward a Theory of Middle-Range Theorizing." *Academy of Management Review* 4:443–47.
- Brodsky, S. 1991. Testifying in Court: Guidelines and Maxims for the Expert Witness. Washington, DC: American Psychological Association.
- Brodsky, S. 2004. Coping with Cross-Examination and Other Pathways to Effective Testimony. Washington, DC: American Psychological Association.
- Brodsky, S. 2009. Principles and Practice of Trial Consultation. New York: Guilford Press.
- Buchman, J. 2007. "The Effects of Ideology on Federal Trial Judges' Decision to Admit Scientific Expert Testimony." American Politics Research 35:671–93.
- Calder, J. and D. Sipes. 1992. "Crime, Security, and Premises Liability: Toward Precision in Security Expert Testimony." *Security Journal* 3:66–82.
- Cale, E. and S. Lillienfeld. 2006. "Psychopathy Factors and Risk for Aggressive Behavior." *Law and Human Behavior* 30:51–74.
- Carrington, F. and J. Rapp. 1991. Victims' Rights: Law and Litigation. New York: Matthew Bender.
- Cartwright, D. 2002. Psychoanalysis, Violence and Rage-Type Murder. New York: Bronner-Routledge.

- Chan, T., G. Vilke, and T. Neuman. 1998. "Re-Examination of Custody Restraint Position and Positional Asphyxia." *American Journal of Forensic Medicine and Pathology* 19:201–205.
- Clarke, R. and G. Bichler-Robertson. 1998. "Place Managers, Slumlords and Crime in Low-Rent Apartment Buildings." Security Journal 11:11–19.
- Cohen, L. and M. Felson. 1979. "Social Change and Crime Rate Trends: A Routine Activity Approach." American Sociological Review 44:588–608.
- Crabbe, A., S. Decoene, and H. Vertommen. 2008. "Profiling Homicide Offenders: A Review of Assumptions and Theories." Aggression and Violent Behavior 13:88–106.
- Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579 (1993).
- Davis, K. 1969. Discretionary Justice. Baton Rouge: Louisiana State University Press.
- Denenberg, R. and M. Braverman. 1999. The Violence-Prone Workplace. Ithaca: Cornell University Press.
- Dietz, P. 1986. "Mass, Serial and Sensational Homicides." Bulletin of the New York Academy of Medicine 62:477–91.
- Duhart, D. 2001. "Violence in the Workplace, 1993–1999." Bureau of Justice Statistics Special Report, December 20, pp. 1–12.
- Ellis, Z. 2006. Avoiding Liability in Premises Security. 6th ed. Atlanta: Strafford Publications.
- Erickson, R. 1998. *Convenience Store Security at the Millennium*. Alexandria: National Association of Convenience Stores.
- Evans, S. and J. Scott. 1983. "Social Scientists As Expert Witnesses: Their Use, Misuse and Sometimes Abuse." *Law and Policy Quarterly* 5:181–214.
- Faigman, D. and L. Monahan. 2005. "Psychological Evidence at the Dawn of the Law's Scientific Age." Annual Review of Psychology 56:631–59.
- Felson, M. and R. Boba. 2010. Crime and Everyday Life. 4th ed. Thousand Oaks: SAGE.
- Felson, R. B. 1982. "Aggression Management and the Escalation of Aggression and Violence." Social Psychology Quarterly 45:245–54.
- Felson, R. B. and J. Staff. 2010. "The Effects of Alcohol Intoxication on Violent versus Other Offending." *Criminal Justice and Behavior* 37:1343–60.
- Fiske, S., D. Bersoff, E. Borgida, K. Deaux, and M. Heilman. 1991. "Social Science Research on Trial: Use of Sex Stereotyping Research in Price Waterhouse v. Hopkins." *American Psychologist* 46:1049–60.
- Forst, B. 2004. Errors of Justice: Nature, Sources, and Remedies. New York: Cambridge University Press.
- Fox, J. and J. Levin. 2007. *The Will to Kill: Making Sense of Senseless Murder*. 3rd ed. Boston: Allyn & Bacon.
- Fradella, H. and K. Brown. 2007. "The Effects of Using Social Scientific Rape Typologies on Juror Decisions to Convict." Law & Psychology Review 31:1–19.
- Garrett, B. 2011. Convicting the Innocent: Where Criminal Prosecutions Go Wrong. Cambridge: Harvard University Press.
- Gordon, R. 2005. "The Likable Witness." For the Defense, May, pp. 20-22, 24-26, 57.
- Graham, K. 1999. Safer Bars: Assessing and Reducing Risks of Violence. Toronto, Ontario, Canada: Center for Addiction and Mental Health.
- Graham, K., S. Bernards, D. Osgood, and S. Wells. 2006. "Bad Nights or Bad Bars? Multilevel Analysis of Environmental Predictors of Aggression in Late-Night, Large-Capacity Bars and Clubs." *Addiction* 101:1569–80.
- Graham, K. and R. Homel. 2008. Raising the Bar: Preventing Aggression in and Around Bars, Pubs and Clubs. Portland: Willan Publishing.
- Greenfield, L. 1998. Alcohol and Crime. Washington, DC: U.S. Department of Justice.
- Hannon, L. 1992. The Legal Side of Private Security. Westport, CT: Quorum Books.
- Hazelwood R., and A. Burgess, eds. 1999. *Practical Aspects of Rape Investigation*. 2nd ed. Boca Raton: CRC Press.
- Hilliard, B. 2011. "Increasing the Effectiveness of Expert Testimony." For the Defense, July, pp. 14-17, 76.

- Hirsch, M. and T. Quartaroli. 2011. "If It Please the Court: Sociologist As Expert Witness." Journal of Applied Social Science 5:33–39.
- Holmes, R. and S. Holmes. 2000. Mass Murder in the United States. Upper Saddle River: Prentice Hall.
- Homant, R. and D. Kennedy. 1995. "Landholder Responsibility for Third Party Crimes in Michigan: An Analysis of Underlying Legal Values." University of Toledo Law Review 27:115–47.
- Homant, R. and D. Kennedy. 2003. "The Crisis-Prone Organization as a Factor in Workplace Aggression." Security Journal 16:63–76.
- Hughes, K., Z. Anderson, M. Merleo, and M. Bellis. 2008. "Alcohol, Nightlife and Violence." Addiction 103:60–65.
- Hunter, R. 1999. "Convenience Store Robbery Revisited: A Review of Prevention Results." Journal of Security Administration 22:1–13.
- Inbau, F., M. Aspen, and J. Spiotto. 1983. Protective Security Law. Boston: Butterworth.
- Jenkins, P. and S. Kroll-Smith. 1996. "Witnessing for Sociology: Sociologists in Court." Westport: Praeger.
- Kalmuss, D., M. Chesler, and J. Sanders. 1982. "Political Conflict in Applied Scholarship: Expert Witnesses in School Desegregation Litigation." Social Problems 30:168–78.
- Kaminsky, A. 2008. A Complete Guide to Premises Security Litigation. 3rd ed. Chicago: American Bar Association Publishing.
- Karmen, A. 2010. Crime Victims. 7th ed. Belmont: Wadsworth Cengage Learning.
- Kazemian, L. 2007. "Desistance from Crime." Journal of Contemporary Criminal Justice 23:5–27.
- Keeton, W., D. Dobbs, R. Keeton, and D. Owen. 1984. Prosser and Keeton on Torts. 5th ed. St. Paul: West Publishing.
- Kennedy, D. 1993. "Architectural Concerns Regarding Security and Premises Liability." Journal of Architectural Planning and Research 10:105–29.
- Kennedy, D. 2006. "Forensic Security and the Law." Pp. 118–45 in *The Handbook of Security*, edited by M. Gill. New York: Palgrave Macmillan.
- Kennedy, D., R. Homant, and M. Homant. 2004. "Perception of Injustice as a Determinant of Support for Workplace Aggression." *Journal of Business and Psychology* 18:323–36.
- Kennedy, D., R. Homant, and J. Kennedy. 1992. "A Comparative Analysis of Police Vehicle Pursuit Policies." Justice Quarterly 9:227–46.
- Kennedy, D. and R. Hupp. 1998. "Apartment Security and Litigation: Key Issues." Security Journal 11:21–28.
- Kennedy, D. and J. Sakis. 2008. "From Crime to Tort: Criminal Acts, Civil Liability and the Behavioral Science." Pp. 119–42 in *Psychology and Law*, edited by D. Canter and R. Zukauskiene. Aldershot, UK: Ashgate Publishing.
- Keppel, R. and R. Walter. 1999. "Profiling Killers: A Revised Classification Model for Understanding Sexual Murder." International Journal of Offender Therapy and Comparative Criminology 43:417–37.
- Kline v.1500 Massachusetts Avenue, 439 F.2d 477 (D.C. Cir. 1970).
- Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999).
- Leo, R. 2008. Police Interrogation and American Justice. Cambridge: Harvard University Press.
- Leonard, V. and H. More. 2000. *Police Organization and Management*. 9th ed. New York: Foundation Press.
- Loftus, E. 1996. Eyewitness Testimony. Cambridge: Harvard University Press.
- Loomis, D., S. Marshall, S. Wolf, C. Runyan, and J. Butts. 2002. "Effectiveness of Safety Measures Recommended for Prevention of Workplace Homicide." *Journal of the American Medical Association* 287:1011–17.
- Loveless L., ed. 2001. *Workplace Violence: A Report to the Nation*. Iowa City: University of Iowa Injury Prevention Research Center.
- Luckenbill, D. 1977. "Criminal Homicide As a Situated Transaction." Social Problem 25:176-86.
- MacHovec, F. 1987. The Expert Witness Survival Manual. Springfield: Charles C. Thomas.

- Malone, D. and P. Zwier. 1999. *Expert Rules*. Rev. ed. Notre Dame, IN: National Institute for Trial Advocacy.
- Mark, M. 1999. "Social Science Evidence in the Courtroom: Daubert and Beyond?" Psychology, Public Policy, and Law 5:175–93.
- McArdle, E. 2008. "Sociologists on the Colorblind Question." Contexts 7:34-37.
- McManus, R. and S. O'Toole. 2004. The Nightclub, Bar and Restaurant Security Handbook. 3rd ed. Swampscott, MA: Locksley Publishing.
- Meloy, J. 1997. "Predatory Violence during Mass Murder." Journal of Forensic Science 42:326-29.
- Merton, R. 1968. Social Theory and Social Structure. Enlarged ed. New York: Free Press.
- Monahan, J. and L. Walker. 1988. "Social Science Research in Law: A New Paradigm." American Psychologist 43:465–72.
- Monahan, J. and L. Walker. 2006. Social Science in Law. 6th ed. New York: Foundation Press.
- Monahan, J., L. Walker, and G. Mitchell. 2008. "Contextual Evidence of Gender Discrimination: The Ascendance of 'Social Frameworks." Virginia Law Review 94:1715–49.
- Moore, H. and J. Friedman. 1993. "Courtroom Observation and Applied Litigation Research: A Case History of Jury Decision Making." *Clinical Sociology Review* 11:123–41.
- Mulkey, L. 2009. "The Sociologist As Expert Witness: A Resource for Resolving Injustice in the Case of Personal Injury." *Journal of Applied Social Science* 3:27–35.
- Page, J. 1988. The Law of Premises Liability. 2nd ed. Cincinnati, OH: Anderson Publishing.
- Pastor, J. 2007. Security Law and Methods. Burlington, MA: Butterworth-Heinemann.
- Perline, I. and J. Goldschmidt. 2004. *The Psychology and Law of Workplace Violence*. Springfield: Charles C. Thomas.

Petherick, W., B. Turvey, and C. Ferguson. 2010. Forensic Criminology. Amsterdam, Netherlands: Elsevier.

- Peyrot, M. and S. Burns. 2001. "Sociologists on Trial: Theoretical Competition and Juror Reasoning." *The American Sociologist* 32:42–69.
- Richardson, J., K. Swain, J. Codega, and K. Bazzell. 1987. "Forensic Sociology: Some Cautions and Recommendations." *The American Sociologist* 18:385–93.
- Rigakos, G. 2008. Nightclub: Bouncers, Risk, and the Spectacle of Consumption. Montreal, Quebec, Canada: McGill-Queen's University Press.
- Roberts, J. 2007. "Aggression in Hoboken, New Jersey: Don't Blame the Bouncers." *Journal of Drug Education* 37:429–45.
- Saitz, R. and T. Naimi. 2010. "Adolescent Alcohol Use and Violence." Journal of the American Medical Association 304:575–77.
- Sakis, J. and D. Kennedy. 2002. "Violence at Work." Trial, December, pp. 32-36.
- Sales, B. and D. Shuman. 2005. Experts in Court: Reconciling Law, Science, and Professional Knowledge. Washington, DC: American Psychological Association.
- Sampson, R. 2001. Drug Dealing in Privately Owned Apartment Complexes. Washington, DC: U.S. Department of Justice.
- Sampson, R. and J. Laub. 1995. Crime in the Making: Pathways and Turning Points through Life. Cambridge: Harvard University Press.
- Schell, B. and N. Lanteigne. 2000. *Stalking, Harassment and Murder in the Workplace*. Westport: Quorum Books.
- Schmidt, W. 1976. "Recent Developments in Police Civil Liability." Journal of Police Science and Administration 4:197–202.
- Scott, M. and K. Dedel. 2006. Assaults in and Around Bars. 2nd ed. Washington, DC: U.S. Department of Justice.
- Shearing, C. and P. Stenning. 1983. "Private Security: Implications for Social Control." Social Problems 30:493–506.
- Smith, A. 2004. Law, Social Science, and the Criminal Courts. Durham: Carolina Academic Press.

- Smith, M. 1996. "Crime Prevention through Environmental Design in Parking Facilities." National Institute of Justice Research in Brief, April, pp. 1–11.
- Souryal, S. 1981. Police Organization and Administration. New York: Harcourt Brace Jovanovich.
- Stark, J. and H. Goldstein. 1985. The Rights of Crime Victims. New York: Bantam Books.
- Suresh, G. and G. Vito. 2009. "Homicide Patterns and Public Housing." Homicide Studies 13:411-33.

Tarantino, J. and M. Dombroff. 1990. Premises Security: Law and Practice. New York: John Wiley & Sons.

- Tenopyr, M. 1999. "A Scientist-Practitioner's Viewpoint on the Admissibility of Behavioral and Social Scientific Information." *Psychology, Public Policy, and Law* 5:194–202.
- Terr, L. 1983. "Time Sense Following Psychic Trauma." American Journal of Orthopsychiatry 53:244-61.
- Thoresen, J. 1993. "The Sociologist As Expert Witness." Clinical Sociology Review 11:109-22.
- Thornton, W. and L. Voigt. 1988. "Roles and Ethics of the Practicing Criminologist." *Clinical Sociological Review* 6:113–33.
- Warr, M. 1998. "Life-Course Transitions and Desistance from Crime." Criminology 36:183–216.
- Welsh, B. and D. Farrington. 2003. "Effects of Closed-Circuit Television on Crime." Annals of the American Academy of Political and Social Science 587:110–35.
- Welsh, B. and D. Farrington. 2009. Making Public Places Safer: Surveillance and Crime Prevention. New York: Oxford University Press.
- Wenzel, S., J. Tucker, K. Hambarsoomian, and M. Elliott. 2006. "Toward a More Comprehensive Understanding of Violence against Impoverished Women." *Journal of Interpersonal Violence* 21:820–39.
- Winfree, L. and P. Anderson. 1985. "Pragmatism and Advocacy in Criminal Justice Expert Witnessing." Justice Quarterly 2:213–36.

Wolf, E. 1976. "Social Science and the Courts: The Detroit Schools Case." *The Public Interest* 42:102–20.
Wolfgang, M. 1974. "The Social Scientist in Court." *Journal of Criminal Law and Criminology* 65:239–47.
Wrightsman, L. 2001. *Forensic Psychology*. Belmont: Wadsworth/Thomson Learning.

Author Biography

Daniel B. Kennedy, PhD, is a forensic criminologist and professor who frequently consults in security, police, and corrections litigation throughout the U.S. A former probation officer and police academy director, he is also Board Certified in Security Management.