



UNCC H A R L O T T E

The University of North Carolina at Charlotte
Department of Criminal Justice

SUMMARY LITERATURE REPORT

Submitted to the Alarm Industry Research and Education Foundation

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September, 2008

EXECUTIVE SUMMARY

I. Factors that Influence Offenders' Decisions to Burglarize Home and Businesses

- Financial Motives
 - Monetary gain is the primary reason cited for burglary. Research indicates that the profit from burglary is predominantly used to purchase drugs and alcohol and/or maintain a glamorous lifestyle, though some burglars claim they use the money to meet daily expenses (e.g., food, shelter, bills).¹
 - Burglars admit that their crimes produce profit more quickly than earning money through conventional means.²
 - Empirical studies support the idea that economic conditions are related to burglaries. For example, research shows poor economic conditions are related to increases in property crime rates, including some burglaries. Further, a rise in economic prosperity tends to result in increased commercial burglaries but *not* residential burglaries.³
- Social Motives
 - Social factors (e.g., gangs and delinquent subcultures) have been found to be associated with burglary, especially among inexperienced or part-time offenders, as well as female burglars. Burglars often learn their trade and improve their offending skills through collaboration with others.⁴
- Idiosyncratic Motives
 - Some burglars commit their crimes to seek thrills, for revenge, or to be rebellious. These types of motives are most often found among young offenders and tend to subside with age and/or when a dependency on drugs or alcohol increases.⁵

¹ Wright & Decker, 1994; Cromwell, Olson, & Avary, 1991; Forrester, Chatterton, Pease, & Brown, 1988

² Wright & Decker, 1994; Cromwell et al, 1991; Forrester, Chatterton, Pease, & Brown, 1988

³ Chamlin & Cochran, 1998; Garmaise & Moskowitz, 2006; Steffensmeier & Haynie, 2000

⁴ Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Warr & Stafford, 1991; Hochstetler, 2001, Cromwell et al, 1991; Wright & Decker, 1994; Rengert & Wasilchick, 2000; Mullins & Wright, 2003; Nee & Meenaghan, 2006

⁵ Cromwell et al, 1991; Wright & Decker, 1994; Baskin and Sommers, 2006

- Deterrent Effect of Punishment
 - Overall, research suggests that burglars are *not* deterred by the certainty of arrest or the severity of sanctions if detected. They become even less concerned about detection and punishment as they become more experienced and develop more knowledge and expertise at committing burglaries.⁶
 - Burglars report being more concerned about injury and confrontation with occupants than the legal consequences of the crime.⁷
 - There is some evidence that burglaries attempt to reduce their risk of detection by carefully studying and selecting their targets.⁸

- Drugs and Alcohol
 - The use of drugs and alcohol is commonly associated with burglary. As mentioned previously, offenders often cite substance use as a primary motive.⁹
 - Crackdowns in the drug market may increase burglaries for two reasons. First, additional burglaries are a way to increase finances in order to buy drugs at higher prices (drug prices typically increase as supply decreases). Second, drug dealers whose drug sales are affected by police crackdowns may turn to other types of crime, including burglary, for financial gain.¹⁰
 - The decision to commit a burglary is often made while under the influence of drugs and/or alcohol. The use of such substances tends to reduce levels of fear and is also often used as an excuse when an offender is apprehended (i.e., they often maintain that they would not have been caught if they were not impaired).¹¹

- Gender Differences
 - Female burglars are typically introduced to burglary by males (usually with whom they share an intimate relationship). Males typically become involved through peer networks.¹²
 - The motivations for burglary are similar for males and females, though females more often report using the profits to support children. Crime rates for both males and females tend to fluctuate together and are strongly related to poor social and economic factors.¹³

⁶ Carmichael & Piquero, 2006

⁷ Hochstetler & Copes, 2006

⁸ Wright & Decker, 1994; Hakim & Blackstone, 1997; Rengert & Wasilchick, 2000; Cromwell et al, 1991

⁹ Cromwell et al, 1991; Wright & Decker, 1994

¹⁰ Shepard & Blackley, 2005

¹¹ Cromwell et al, 1991; Hochstetler & Copes, 2006

¹² Mullins & Wright, 2003; Hochstetler, 2001

¹³ Steffensmeier & Haynie, 2000

- Females prefer to work in groups and typically have a more limited role in offending than males.¹⁴
- Males are more likely to desist from burglary when they are employed and in a positive relationship. Females desist most often when their relationship with the male offender ends.¹⁵

¹⁴ Mullins & Wright, 2003

¹⁵ Mullins & Wright, 2003

II. Target-hardening Attributes that Inhibit Offenders' Decisions to Burglarize

- **Advanced Knowledge of the Target**
 - Burglars often survey a potential target and assess attractive features and potential risks.¹⁶
 - Offenders often burglarize the home or business of a casual acquaintance or drug dealer; they are less likely to burglarize homes or businesses of close friends or relatives.¹⁷
 - Some offenders learn about a target through their conventional employment (e.g., construction or landscaping).¹⁸
 - Occasionally, burglars will pass information concerning potential targets to each other.¹⁹
 - Burglars typically observe a potential target for a period of time before committing the offense. They learn the routines of the occupants or employees and examine what level and type of payoff can be expected (e.g., jewelry, laptop computers). The offenders also assess risk by monitoring neighbors, police presence, and visible security measures.²⁰
 - Some burglaries are committed without advanced knowledge of the target. Such crimes are most likely to occur when offenders happen upon a suitable target that is extremely appealing and hard to resist. Such spontaneous burglars typically happen in urban, rather than suburban, areas.²¹

- **Curbside Appeal and Visibility of Residential Targets**
 - Burglars claim that, when deciding on a residential target, they observe the size of the residence, condition of the property, and types of vehicles driven by occupants to determine if there are valuable assets within the structure.²²
 - When determining the risk of detection, offenders consider the odds that the residence is occupied, along with the overall visibility of the property. The more visible the property, the higher the perceived risk of apprehension.²³

¹⁶ Wright & Decker, 1994

¹⁷ Wright & Decker, 1994

¹⁸ Wright & Decker, 1994

¹⁹ Wright & Decker, 1994; Hakim & Blackstone, 1997

²⁰ Wright & Decker, 1994; Hakim & Blackstone, 1997; Rengert & Wasilchick, 2000; Cromwell et al, 1991

²¹ Rengert & Wasilchick, 2000; Wright & Decker, 1994

²² Wright & Decker, 1994

²³ Hakim & Blackstone, 1997; Wright & Decker, 1994

- The most desirable targets have large trees, bushes, or fences that block the view of some doors or windows. Burglars also suggest that corner houses have fewer neighbors and more options for escape.²⁴
- **Curbside Appeal and Visibility of Commercial Targets**
 - When deciding whether to burglarize a commercial target, burglars say that the location of the business is extremely important. They prefer a low concentration of other businesses and traffic and tend to avoid establishments near major intersections. Again, corner businesses are more attractive. Further, businesses with reduced lighting and natural cover have higher burglary rates.²⁵
- **Guardianship**
 - Many burglars suggest that their biggest concern is that their target will be occupied. Even if they have scoped out the target and believe no one is home, they will often ring the doorbell or call the residence to see if anyone answers.²⁶
 - Alarms (or a sign or sticker indicating that an alarm is in use) and dogs serve as substitutes for occupancy, and most offenders report being highly deterred from a possible target if one of these measures is detected. Only a small percentage of burglars claim that they will proceed if one of these deterrents is in place. Those who proceed with the burglary claim that they will either disarm the alarm system or leave before police respond to the alarm.²⁷
 - Physical guardianship measures frequently deter opportunistic offenders. Since, these measures are most often encountered after the decision has been made to burglarize, experienced burglars state that they will simply try to find another means of entry if they are having trouble with a particular type of lock (e.g., a double-cylinder dead bolt) or another measure of physical guardianship.²⁸
 - Social guardianship does not deter most burglars. Active burglars have said that they are not deterred by neighborhood watch signs because they do not think such programs are effective. While the burglars try to avoid being seen by a neighbor, they usually have already established a verbal justification for what they are doing in case they are approached.²⁹

²⁴ Wright & Decker, 1994

²⁵ Hakim & Blackstone, 1997

²⁶ Cromwell et al, 1991; Rengert & Wasilchick, 2000; Wright & Decker, 1994

²⁷ Cromwell et al, 1991; Wright & Decker, 1994

²⁸ Wright & Decker, 1994; Cromwell et al, 1991

²⁹ Forrester et al, 1988; Wright & Decker, 1994

- **Temporal and Spatial Attributes**
 - Residential burglaries occur most often: 1) within the first year of occupancy; 2) between May and September (when residents are apt to spend more time away from home); and 3) between 9am and 11am and 1pm and 3pm.³⁰
 - Single-home residences are more likely to be burglarized during daylight hours, while attached residences (e.g., townhomes) and commercial targets are more likely to be burglarized at night.³¹
 - Often because of lack of personal transportation, as well as a familiarity of the area, many burglars offend within close proximity to their own residences. Also, burglars are more likely to blend in with the surroundings if they know the area.³²

³⁰ Hakim & Blackstone, 1997; Rengert & Wasilchick, 2001

³¹ Cromwell et al, 1991; Rengert & Wasilchick, 2001; Hakim & Blackstone, 1997; Goodwill & Alison, 2006; Coupe & Blake, 2006

³² Rengert & Wasilchick, 2000; Wright & Decker, 1994; Hakim & Blackstone, 1997; Goodwill & Alison, 2005 & 2006; Bernasco & Luykx, 2003

III. Comparative Burglary Prevention and Police Response Activities

- International comparisons of burglary prevention programs are scarce, but generally focus on community crime prevention efforts and CPTED approaches.
- Most of the studies along these lines have occurred in either the United States or the United Kingdom.³³
- **Community Crime Prevention Programs**
 - Evidence suggests that social guardianship is linked to reductions in burglary.³⁴
 - While some community-based programs have reduced fear of crime, the impact on actual crime (including burglary) is sometimes less clear, often because of a failure to disentangle specific effects among multiple interventions that are simultaneously occurring.³⁵
- **Crime Prevention through Environmental Design (CPTED)**
 - Among CPTED approaches, closed-circuit television (CCTV), media and publicity campaigns, and increased street lighting efforts have been the focus of research.
 - Among CCTV studies, only about half of those that focused on city centers or public housing (where burglaries are likely to occur) showed evidence of reductions in crime. There is no evidence to suggest that CCTV decreases social guardianship.³⁶
 - Improved street lighting has been effective at reducing burglaries in some areas.³⁷
 - The Reducing Burglary Initiative, a nationally funded and widely implemented program in the U.K., relies on a variety of situational crime prevention approaches. Among these techniques, improved locks were deemed as effective and cost-beneficial, neighborhood watch groups were considered to be low cost investments but not necessarily effective in deterring crime, and property marking was considered effective.³⁸

³³ Laycock & Clarke, 2001

³⁴ Coupe & Girling, 2001; Wilcox, Madensen, & Tillyer, 2007

³⁵ Rosenbaum, 1988; Laycock & Clarke, 2001

³⁶ Welsh & Farrington, 2003

³⁷ Painter & Farrington, 2001

³⁸ Hamilton-Smith & Kent, 2005

- Methods that were designed to be supportive or complimentary of other initiatives were also considered cost-beneficial and effective including use of the media, crime prevention advice packs, aesthetic improvements and police targeting of chronic offenders. Publicity prevention schemes contributed specifically to burglary reductions.³⁹

- **Crime Displacement**

- Studies that focused on burglary have examined geographical, offense switching, temporal displacement. Research has also explored diffusion of benefits.
- Interviews with offenders suggest that burglars will attempt to avoid neighborhoods that are perceived to be well-equipped with alarms (geographical displacement) and also avoid adjacent neighborhoods (diffusion of benefits). Neighborhoods that are perceived to be vulnerable are often repeatedly victimized.⁴⁰
- Some past evaluations of burglary reduction programs suggest mixed results with respect to crime switching and spatial displacement associated with burglary. However, there are methodological concerns with some of these efforts that might be improved with advanced research designs.⁴¹
- A more recent study using rigorous statistical and methodological approaches suggests that alarm ownership rates deterred burglary and that the benefits were diffused to adjacent neighborhoods. Replications of this type of study are encouraged.⁴²

³⁹ Bowers & Johnson, 2003a

⁴⁰ Rengert & Wasilchick, 2000; Cromwell et al, 1991; Wright & Decker, 1994

⁴¹ Forrester et al, 1988; Kushmuk & Whittemore, 1981; Beedle, 1984; Armitage, 2000; Mukherjee & Wilson, 1987; West, 2001; Bowers, Johnson, & Hirshfield, 2003; Ekblom, Law, Sutton, & Wiggin, 1996

⁴² Lee, 2008

IV. Implications of False Alarm Response for Police and Suggestions for Reducing False Alarm Workload for Law Enforcement

• Extent of the Problem

- Current evidence suggests that 94% to 99% of all alarm activations are false, posing a substantial personnel and financial burden on law enforcement and cities and county budgets.⁴³
- Responding to false alarms consumes between 10% and 20% of patrol officers' time and costs approximately \$1.8 billion annually.⁴⁴

• Who is Responsible and Who Pays?

- Evidence suggests that a small proportion of citizens are responsible for the majority of false alarms.⁴⁵
- As alarm ownership rates rises, so does the volume of false calls for police service. Increased calls for false alarms limits legitimate police service resources and productivity.⁴⁶
- The burden of the cost of false alarms and the consequences of diminished police effectiveness directly impacts the general public and local budgets.⁴⁷

• What Steps can be Taken?

- Methods of managing false alarms can be separated into three broad categories of responses: public, private, and public-private collaborations.⁴⁸
- Public responses consist of approaches taken by the police and local governments including alarm registration fees, fine structures, and licensing restrictions. Jurisdictions may also discontinue delivery of police services, revoke user licenses, mandate alarm owner training classes, or impose criminal charges. Generally, the effectiveness of public responses remains largely unknown and inconsistent given variations in implementation, tracking, and user responsiveness.⁴⁹

⁴³ Hakim, Rengert, & Shachmurove, 1995; Blackstone, Buck, & Hakim, 2005

⁴⁴ Blackstone, Buck, Hakim, & Spiegel, 2007; Blackstone, Hakim & Spiegel, 2002

⁴⁵ LeBeau & Vincent, 1997

⁴⁶ Blackstone et al, 2007

⁴⁷ Blackstone et al, 2007

⁴⁸ Blackstone et al, 2005

⁴⁹ Blackstone et al, 2005, 2007; Gilbertson, 2005

- Private responses include those in which the alarm company is directly responsible for responding to the call for service associated with an alarm. This process raises concerns regarding law enforcement authority limitations and safety concerns for citizens and security personnel. However, creating a private market for response may lower costs of services through market competition, as well as increase consumer welfare by allowing customers to choose specific services that match their preferences.⁵⁰
- Public-private collaborations are deemed as the most effective means of providing services to alarm owners while managing the problems associated with false alarms. Enhanced verification techniques may decrease calls for service by seeking to verify the legitimacy of the alarm via telephone (or other means) at the location and at an alternative number. In some case studies, verified response (VR) techniques increased the response time of police in legitimate cases, significantly reduced the burden (financial and physical) on public services, and increased consumer welfare.⁵¹
- Evidence from limited empirical evaluations maintains that burglar alarms reduce the risk of victimization, which implies a benefit to alarm owners. However, only one cost-benefit analysis of alarms conducted within recent years was identified. In this study, alarms were considered cost-effective but the calculation of costs versus benefits remained subjective.⁵²
- Advancements in alarm technology may improve the speed, accuracy, and effectiveness of verification in the future and at reasonable costs. Privately provided physical verification is currently recommended as a means of reducing illegitimate calls for service.

⁵⁰ Blackstone et al, 2005, 2007; Light, 2001

⁵¹ Blackstone et al, 2005, 2007

⁵² Sampson, 2001; Hakim et al, 1995; Hakim & Shachmurove, 1996

I. Factors that influence offenders' decisions to burglarize homes and businesses

Research seeking to understand the criminogenic factors associated with burglary has been underway for many decades within the disciplines of criminology, sociology, economics, geography, and psychology. Various approaches have been utilized to study this type of offending including victimization surveys, interviews or surveys with incarcerated offenders, and analyses of crime, census, and land use secondary data (Tseloni, Witterbrood, Farrell, & Pease, 2004; Wilcox, Quisenberry, Cabrera, & Jones, 2004; Coupe & Blake, 2006). While the contribution of knowledge gained through these techniques is significant, it also suffers from weaknesses inherent within their methodological designs. For example, interviewing incarcerated burglars allows researchers to probe into a variety of offender dynamics; however, the authenticity and reliability of the information gathered is debatable (Wright & Decker, 1994). On the other hand, ethnographic studies do allow researchers to delve into the environments of active offenders, but also suffer from sample recruitment, safety, and ethical dilemmas (Wright, Decker, Redfern, & Smith, 2006).

Decision Making Process

How offenders arrive at the decision to commit burglary is the focus of considerable debate. Rational choice perspectives dominate the theoretical discussion, but vary in the expected degree of rationality (see Wright & Decker, 1994; Hochstetler, 2001; Cromwell & Olson, 2006). According to Hochstetler's (2001) literature assessment, the type of research design can influence the support for various theoretical positions. The conclusion from this review, as well as the overall findings from Shover and Honaker (2006), suggest that research conducted within the context of the offender's environment yields support that decision making is indeed rational, but is also limited by lifestyle and situations. Cromwell & Olson (2006) state the threshold is reached when the chosen option is considered optimal among various alternatives. In reality, burglars cannot accurately predict the risks or gains associated with their actions. Thus, their decisions while rational are nevertheless bound by environmental, individual, and contextual factors.

Various aspects of the decision to burglarize are important to highlight. First, factors associated with motivation to initiate into burglary are important. Second, the deterrent effect of punishment is relevant to the decision to burglarize. Third, a discussion of how drugs and alcohol influence burglary decisions is useful. In addition, a review of the recent attention on gender differences present in offending decisions merits consideration. Finally, how offenders choose their targets and the level of expertise associated with the crimes is of relevance to this study. All of these issues are discussed below.

Motivation

Financial Motives

The various factors that motivate individuals to commit burglary are fairly common and consistent (Wright & Decker, 1994; Cromwell, Olson, & Avary, 1991, & Cromwell & Olson, 2006, Nee & Meenaghan, 2006). The need for money is the primary reason given by offenders in both ethnographic research and offender interviews (Forrester, Chatterton, Pease, & Brown, 1988). The money is predominantly used to purchase drugs and alcohol and maintain a glamorous lifestyle (Cromwell et al., 1991; Wright & Decker, 1994). However, some burglars acknowledge the need to meet daily expenses including food, shelter, and bills (Wright & Decker, 1994). Burglary provides offenders a means to quickly obtain a desirable amount of money or valuable goods in a short period of time in comparison to legitimate employment.

Macro level research testing the link between economics and crime provides support for the financial motivation theory. For example, Chamlin and Cochran (1998) demonstrate that a rise in economic prosperity (indicated by oil prices) increases commercial burglaries that are more likely to be committed by offenders motivated by monetary gain. However, they do not find evidence linking economic prosperity to residential burglary. Another study suggests that economic conditions, specifically bank mergers, impact burglary and property crimes in general (Garmaise & Moskowitz, 2006). They argue that bank mergers create a reduced supply of credit that negatively correlates with declining neighborhood prosperity and subsequently increases property crime rates. A third study reports that economic disadvantage is a significant predictor of index crime rates, including burglary (Steffensmeier & Haynie, 2000). While a review of all empirical tests of the economic relationship to crime is beyond the scope of this work, the purpose of this brief discussion is to provide some evidence which verifies that finances are a primary motivation for burglary.

Social Motives

Individuals may become involved in burglary through social interactions. Cromwell and Olson (2006) note that social factors include gangs, delinquent subcultures, peer approval and status. Hochstetler (2001) shows that involvement in street life leads to criminal activity through complex interaction effects of peer encouragement and collaboration. A well-known explanation derives from social learning theory which argues that criminal behavior is learned and reinforced by peers and this relationship exists among juvenile and adult offenders (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Warr & Stafford, 1991; Hochstetler, 2001). While Hochstetler's (2001) research focuses on co-offenders specifically, other burglary research indicates various types of criminal collaborations especially among inexperienced or part-time offenders and females (Cromwell et al., 1991; Wright & Decker, 1994; Rengert & Wasilchick, 2000; Mullins & Wright, 2003; Nee & Meenaghan, 2006). Examples of such collaborations include co-offending, sharing or receiving information about potential targets, and fencing of goods.

Idiosyncratic Motives

Although many begin committing burglaries due to financial or social motives, research suggests that a significant portion also indicate an emotional or idiosyncratic dynamic (i.e. specific to the offender) such as thrill seeking, revenge, rebellion, kicks, or pathological behavior (Cromwell et al., 1991). Emotional factors may serve as the sole motivation for a small proportion of offenses. For example, Cromwell et al. (1991) report about 30 percent of their sample committed at least one revenge burglary. They also advocate that idiosyncratic motives are more characteristic of younger offenders. However, Wright & Decker (1994) suggest that the excitement subsides over time as financial pressures become the primary motivating factor. Baskin and Sommers (2006) also suggest that the enjoyment of criminal behavior gradually declines as dependency on drugs and alcohol increases.

Deterrent Effect of Punishment

The ongoing theoretical debate of the deterrent effect of punishment yields numerous conclusions (see Wright, Caspi, Moffitt, & Paternoster, 2004 as well as Carmichael & Piquero, 2006). Research is not consistent as to which element of deterrence—certainty or severity of punishment—has greater weight, and whether deterrent effects vary among criminals of differing motivations and propensities to offend. Wright et al. (2004) report that criminally prone individuals are more deterred than those who are less inclined to offend. They reason that when individuals who are less criminally prone do engage in crime, they are highly motivated to do so and therefore less likely to be swayed by the fear of punishment. Carmichael and Piquero (2006) calculate experiential effects and arrest ratios of various crimes, including burglary, to determine whether increased participation in criminal activities decreases deterrence and if arrest ratios impact the perceived certainty of sanctioning. They find mixed results for experiential effects, but solid support that low arrest-to-crime ratios decrease the fear of punishment for several types of crimes. However, the results for burglary (as well as robbery) were contrary to expectations. Specifically, more experience in committing burglary is associated with increased fear of sanctions. The authors speculate that initially low perceptions of fear can only increase with greater participation in the crime. Similarly, arrest ratios for burglary do not significantly impact perceptions of sanction certainty and do not emerge in the hypothesized direction, meaning that as their arrest ratio increases, the perceptions of sanction certainty decrease.

This finding may be a function of a perceived lack of punishment certainty (and severity) in the criminal justice system for burglars and for property offenders in general. Little evidence is offered in support of the deterrent effect of punishment for burglary offenders in particular (Cromwell & Olson, 2006, Wright & Decker, 1994). Hochstetler & Copes (2006) argue that fear of criminal consequences for property crime ranked lower than fear of injury or confrontation with the occupants. Working in groups is also reported to reduce anxiety of punishment and co-offending is common for burglary (Hochstetler, 2001). Mullins and Wright (2003) indicate that females, in particular,

discount their risk of punishment due to belief that society is not likely to punish males and females equally. Forrester et al. (1988) report that the majority of their interview sample of offenders does not consider the risk of punishment in their decisions to offend. Yet, these studies also present evidence that offenders attempt to reduce their risk by carefully studying and selecting their targets.

To summarize, burglary offenders are not likely to be deterred by the perceived risk of punishment. Many of the reviewed studies analyze the behaviors of individuals who have been engaged in criminal social networks for extended periods of time. The lack of apprehension and subsequent punishment reinforces the belief that they are less likely to be detected or formally punished. As offenders further engage in burglary, enhanced knowledge and expertise additionally decreases fear. Furthermore, offenders often work in groups and this interaction is shown to reduce anxiety as offenders learn from one another. Overall, among individuals already participating in burglary, the risk of punishment is not an influential factor in the decision making calculus.

From a policymaking perspective, Mendes (2004) suggests that the practice of analyzing the individual offender's propensity to offend should not be a factor when discussing aggregate groups of offenders. Mendes (2004) further argues that one particular component of deterrence (i.e., certainty or severity) should not receive greater attention as her analysis concludes that one does not have greater impact than the other. She contends that policy tradeoffs arise and impact the various entities of the criminal justice system when the emphasis of punishment swings from certainty to severity. For example, when increased resources are appropriated to apprehension efforts, those resources are removed from the courts and prisons. On the other hand, when greater significance is placed on the severity of punishments, prisons become overcrowded and resources are stripped from law enforcement, therefore potentially limiting the certainty of detection and/or arrest.

Drugs and Alcohol

The use of drugs and alcohol is commonly associated with burglary and the need to support a party lifestyle or drug addiction is frequently noted as a motivation (Cromwell et al., 1991; Wright & Decker, 1994). The decision to commit a burglary is often made while under the influence or during periods of substance abuse (Forrester et al., 1988; Nee & Meenaghan, 2006). Also, offenders state that using substances prior to a burglary helps to reduce fear (Cromwell et al., 1991; Hochstetler & Copes, 2006). However, being under the influence is also a common excuse when they are arrested because they believe their mistakes derived from impairment (Rengert & Wasilchick, 2000). Other research suggests that crackdowns in the drug market subsequently increases burglaries as decreasing drug supplies cause the price of drugs to increase (Shepard & Blackley, 2005). Furthermore, disruptions in drug markets create a displacement of revenue generation efforts to other types of crime, including burglary. Overall, it is clear that drugs and alcohol impact some decisions to commit burglary.

Gender Differences

While the body of research exploring gender roles among offender has grown significantly, relatively little research regarding burglary specifically has been conducted (Mullins & Wright, 2003). Burglary is considered a male-dominated crime in which females are not considered major players. Only a few earlier ethnographic samples report a small percentage of female offenders (Wright & Decker, 1994; Cromwell et al, 65 1991). Mullins and Wright (2003) utilized data from Wright and Decker (1994) in order to specifically study the gender structure, perception, and expectation of burglary offending and conclude that several gender differences do exist. First, females are predominantly introduced to burglary by their significant other (Mullins & Wright, 2003), while males become involved through peer networks (Hochstetler, 2001). Some females claim that they were initially unaware of their partners' burglaries, but eventually began participating.

Among females willingly engage in burglary, their motivations fail to significantly differentiate from males, except that women more often report using the proceeds to support their children, in addition to partying. Target information gathering differs slightly as males exploit their legal occupations (landscaping, construction, service workers, etc.) or use their social networks (peers, fences, etc.), while females rely on intimate or social relationships with males or on sexual manipulation of potential victims. Females prefer to work in groups and their roles are generally limited unless the group is all female. However, performing a lesser role is considered valuable, as they believe their limited participation will be legally viewed as less incriminating. Yet, the risk of getting caught and being incarcerated is not an instrumental factor in their decision-making.

For males and females, desistance (hypothetical desistance as these are active offenders) depends on situational contexts. Males are more likely to desist when they are engaged in positive and productive relationships and employment. However, females often desist when their relationships end with their offending significant others. Furthermore, females tend to be more concerned about the impact of their behaviors on families. However, this last finding differs greatly from a sample of violent female street offenders in that increased criminal involvement led to further withdrawal from their families and children (Baskin & Sommers, 2006).

Other research regarding female offending, serious offenses and street crime, offers alternative insights for motivation. Steffensmeier & Haynie (2000) suggest that macro-social factors traditionally correlated with male offending also impact females, such as socioeconomic status, education, employment, and race. Specific to burglary, the disadvantage variables offer approximately equal amounts of variance for both males and females, but the effects are slightly greater for males. These findings suggest that both male and female burglary offenders are motivated by negative economic and social dispositions.

Empirical differences between males and female burglary offenders are infrequently the focus of research. However, several key findings emerge from the select body of available research. First, both males and females are drawn to burglary to obtain money. The need for money often results from drug and alcohol addictions. Target selection is relatively the same; except that males are able to generate more information from their legal occupations or their social networks. Furthermore, the perception of risk for apprehension and prosecution are relatively low for both groups. Crime rates for both males and females tend to fluctuate together and are strongly correlated to poor social and economic factors. Overall, evidence suggests that male and female offenders are relatively similar.

Summary

Decisions made by burglary offenders are shaped by economic and social factors. While the choice to commit burglary is a calculated deliberation, the full scope of information for risks and benefits information is limited. Bounded rationality is further complicated by drug and alcohol abuse. Burglars operate in the present, with little thought to the future. Consequently, deterrence measures seem to have little effect on curbing their behaviors. Although males often dominate the study of burglary and street crime, the role of female offenders have caught the attention of researchers. Socioeconomic factors that traditionally lead males into crime are also being linked with females and this evidence questions the opinion that females are better shielded in society from the consequences of disadvantaged conditions.

Several elements must be in place to reduce the desire to commit burglary. First, economic and social conditions have to improve in order to diminish the glorification of illicit income. Second, the criminal justice system must increase the certainty of arrest of offenders and apply sentences lengthy enough to be deemed undesirable to offenders. Third, identifying and treating substance abuse would decrease the demand for drugs and alcohol. Clearly these suggestions are ideal and extraordinarily complex. Aside from institutional measures that can help alleviate burglary rates, communities and residents can collaborate to implement strategies that lessen the likelihood of victimization. Overall, many offenders are drawn to the appeal of burglary. Therefore, measures taken to minimize the perceived benefits or ease of burglary will serve as change agents in the decision making process.

II. Target-hardening attributes that inhibit offenders' decisions versus those factors that attract them

Advanced Knowledge of the Target

Wright & Decker (1994) observe that many burglars in their sample typically selected targets in advance using knowledge of the people or property that was already gathered. This information is gathered in three general ways: by knowing the victims, from receiving a tip, or through observation. The majority of the offenders indicate that observation is their most common means of selecting a target. However, most offenders admit to occasionally acting on impulse by choosing a residence and immediately committing the burglary. In any case, offenders survey the target for attractive features and potential risks outlined below.

Prior Knowledge of the Victim

Potential victims that are known to the offender tend to be casual acquaintances or drug dealers, and rarely are close friends or relatives (Wright & Decker, 1994). The homes of drug dealers are appealing because they are less likely to report the burglary and offenders potentially gain large sums of cash and drugs. Some offenders inconspicuously engage in casual conversations with people they just met to obtain seemingly harmless information about them, and to determine their suitability as a potential target. Many use their legitimate jobs to learn about targets, particularly the routines of the occupants. Others may pose as valid employees of companies to scout a home or neighborhood. Another frequent means of selecting a target is choosing a home of a friend or family member of one of the offender's friends or family. While they are less likely to steal from the homes of their closest friends or family, the extended network is not as protected.

Receiving a Tip

Information passed on to offenders about potential targets is considered valuable. Such individuals that provide tips range from property fences, drug addicts, or others with legitimate jobs (Wright & Decker, 1994; Hakim & Blackstone, 1997). Often the offenders provide a part of the profit or goods for the information. While most offenders do not use tips on a regular basis, a few operate solely from inside information. Offenders that use tips express some lack of trust in the information, in expectation of being set up for arrest.

Watching the Target

Offenders typically observe a dwelling for a period of time prior to deciding to commit the burglary (Wright & Decker, 1994; Hakim & Blackstone, 1997; Rengert & Wasilchick; 2000; Cromwell et al., 1991). They place value in learning about the residence before acting. The most important type of information is the routine activities of the occupants. Also, offenders hope to determine whether the expected payoffs

warrant the risks and may be able to do so by observing the type of clothing or jewelry worn by the occupants. In addition, some burglars monitor the neighbors, police presence, or visible security measures. A time lag often exists for many between selecting a target and committing the break-in. Thus, having a memory bank of targets minimizes the time between deciding to commit and actually committing the burglary. The abbreviated, or relatively instantaneous, decision-making process may be perceived as irrational unless one understands the calculated process of shopping for targets.

Opportunities

Many burglaries are not committed with information gathered in advance, but rather when opportunities arise that are too appealing to resist (Rengert & Wasilchick, 2000; Wright & Decker, 1994). These opportunities occur when the individual happens upon a suitable target and takes advantage of the moment. The offender does not have to be motivated to burglarize prior to encountering the opportunity, but rather must be prepared to engage quickly. Rengert & Wasilchick (2000) state spontaneous opportunities are more characteristic of amateur offenders and urban burglaries rather than suburban burglaries that rely on increased preparation. However, Cromwell et al. (1991) suggest that opportunistic offences are not specific to amateurs as even the most rational and professional burglars can determine the value of a random opportunity.

Curb-side Appeal and Visibility

Particular features attract offenders to residences. An appearance of affluence is commonly cited as a selling point (Wright & Decker, 1994; Hakim & Black, 1997; Rengert & Wasilchick, 2000; Bernasco & Luykx, 2003). The size of the residence, condition of the property, and the types of vehicles driven by the occupants are other indicators of valuable assets contained within the home (Wright & Decker, 1994). Furthermore, in wealthy neighborhoods where all the houses similar in quality, offenders report that their targets have an “it factor”. They feel drawn to the residence for reasons they cannot particularly identify. Wright and Decker (1994) suggest this seduction may be triggered by the amount of time spent watching the property, as offenders get attached to their targets. They also state that many determine the viability of the target from the street, as their risk increases when they come within close proximity to survey physical target hardening measures.

Offenders perceive the visibility of the property to be a high risk factor, in addition to occupancy (Wright & Decker, 1994; Hakim & Black, 1997). Visibility during entry or departure significantly increased the perceived risk of apprehension. Residences with large trees, bushes, or fences that block the view of doors or windows are considered more attractive (natural covering). Dwellings built within a close proximity of each other are less suitable for fear of being heard or seen; therefore detached single-family residences are preferred. Furthermore, corner houses have fewer neighbors and more options for escape.

Commercial establishments also have certain appealing characteristics that may heighten their vulnerability to burglary. Again, perceived affluence is the strongest attraction to an offender (Hakim & Blackstone, 1997). The second characteristic, though less prominent, is the business's location in relationship to the concentration of community businesses. Offenders prefer a lower concentration of businesses and traffic and shy away from major intersections or highly patrolled areas. Businesses located on corners have a higher risk of burglary as they offer multiple directions for escape. The types of businesses with the highest burglary rates are office park suites, retail establishments, and single office buildings. In addition, visibility is an important factor when selecting a business target. Businesses with increased lighting and less natural cover often have lower burglary rates.

Guardianship

Occupancy

Occupancy of the target is the greatest concern for burglars (Cromwell et al., 1991; Rengert & Wasilchick, 2000; Wright & Decker, 1994). Many take great measures to ensure they will not encounter any person upon entering the home. They fear potential injury to themselves, being apprehended, or risking more punishment if they harm the residents. Aside from monitoring the occupants' routines, many will utilize other techniques to determine whether anyone is home. Some report ringing the doorbell and if no one answers after several attempts, they feel the residence is vacated. Others will retrieve identification information in order to locate a phone number and subsequently call the home. Should the resident answer the door or phone, the offender will have a story prepared to justify their presence. Other cues such as accumulating mail or newspapers, closed windows, or the lack of air conditioning on hot days signals vulnerability. Cromwell et al. (1991) also state that more seasoned burglars will probe the occupancy of neighbors as well. A few burglars report being unaffected by residents being at home, or see it as more exciting. Rengert & Wasilchick (2000) reported that night burglars in their sample were sometimes under the influence of hallucinogens.

Occupancy Proxies

Alarms and dogs serve as substitutes for occupancy. Most offenders report being highly deterred by these security measures (Cromwell et al, 1991; Wright & Decker, 1994; for extensive review of existing studies, see Lee, 2008). Recent research utilizing alternative research designs concur that alarms are beneficial to individuals as well as neighborhoods (Lee, 2008). Signs or stickers that advertise alarm ownership are also effective deterrents. If a burglar does choose to enter a home while unsure of an alarm (silent or audible), they often stall for a select period of time in case police or occupants respond. Among those offenders not deterred by alarms, they project either being confident they will depart before the police will arrive or capable of disabling the alarm. Of the offenders that accept the risk associated with dogs, many attempt to either befriend or do away with them. Like alarms, however, only a small percentage of burglars will

proceed with the event when confronted with dogs. Overall, alarms and dogs provide an effective means of deterrence for burglars.

Commercial establishments can also employ effective measures to deter criminals. Hakim and Blackstone (1997) argue that alarms, particularly advertised by alarm signs, are effective at reducing the likelihood of victimization. As most offenses are conducted at night while the dwelling is likely unoccupied, the use of cameras substitutes for witnesses (Hakim & Blackstone, 1997). Furthermore, businesses can use motion detectors and pressure mats to detect the presence of potential offenders.

Physical Guardianship Measures

Locks on doors and windows are not visible during the initial target selection process. Most offenders encounter these measures after already deciding to commit the burglary. However, this does not imply that locks are not effective. Dead bolt locks, especially double-cylinder dead bolts, are overwhelmingly disliked but can still be circumvented with tools or physical force (Wright & Decker, 1994). Cromwell et al. (1991) argue that the effectiveness of dead bolt locks depend on the type of burglar. Rational offenders will use other means of entry when faced with perceived physical barriers. However, opportunistic offenders will be more deterred and some may proceed to a more vulnerable target. Other devices, such as bars on windows and storm doors, are also unattractive features for offenders. In addition, Hakim and Blackstone (1997) recommend placing pins in windows. The key to physical guardianship is to actively utilize the measures, as burglars often simply enter through an open or insecure window or door instead (Cromwell et al., 1991; Hakim & Blackstone, 1997).

Social Guardianship

Social guardianship is defined as perceived or actual protection provided by other members of a neighborhood or community. Research suggests that social guardianship is effective in reducing burglary, especially when coupled with other types of guardianship measures (Wilcox, Madensen, & Tillyer, 2007). Forrester et al. (1988) argue that unless neighbors or community members are committed to providing this service, then burglaries committed in visible ranges of others are not likely to be detected. Furthermore, some offenders state they are not dissuaded from neighborhoods with signs of community watch programs because they believe these are ineffective overall (Wright & Decker, 1994). However, most will attempt to elude neighbors or individuals that may suspect them. Offenders often dress like service workers or employ tactics that would seem reasonable to onlookers. They also mentally prepare verbal justifications for their presence at a residence or neighborhood. If disrupted, few immediately try to burglarize another location. Hakim and Blackstone (1997) suggest that lower social guardianship is linked to business and residence victimization within the first year of occupancy, as neighbors are less likely to be acquainted with the new occupants.

Search and Departure Strategies

Few studies have focused specifically on the behaviors of offenders once they successfully enter the dwelling. Data gathered from select ethnographic studies and prisoner interviews suggest that search strategies often follow a cognitive script. Scripts are developed over time that enable actions to be performed without thought, effort, or cause, and response to sensory cues are instantaneous (Nee & Meenaghan, 2006). Offenders begin their search in the master bedroom to locate valuable items in plain sight and those in dressers, bedside tables, wardrobes, and under the bed (Nee & Meenaghan, 2006; Rengert & Wasilchick, 2000; Wright & Decker, 1994). They may differ in the manner in which they explore, either ransacking or methodically (Rengert & Wasilchick). A quick search of downstairs rooms (living room, dining room, study, and kitchen) and other adult rooms is conducted, generally avoiding the bedrooms of children, before departing (Wright & Decker, 1994). Home burglars also search areas thought to be creative hiding spots by residents, such as freezers. When offenders believe they have collected enough goods or found everything of value, they leave the residence by predetermined escape routes and most try to immediately dispose of the stolen goods (Nee & Meenaghan, 2006; Rengert & Wasilchick, 2000; Wright & Decker, 1994). While an understanding of the search and departure process does not enhance the ability to prevent a burglary, it can educate residents of loss prevention methods and inform police about fencing operations.

Temporal Attributes

Analyzing temporal patterns is critical for offenders (Cromwell et al., 1991; Rengert & Wasilchick, 2000; Hakim & Blackstone, 1997). Most residential burglaries are committed on a weekday in the daytime (Cromwell et al., 1991; Rengert & Wasilchick, 2000; Hakim & Blackstone, 1997; Goodwill & Alison, 2006; Coupe & Blake, 2006). Fewer are committed at night or on the weekends. Of those committed at night, the offenders generally are acquainted with occupants and are confident the premise is vacated. Businesses, however, are more likely to be targeted at night when most are closed. Research suggests that residential burglars favor suburban neighborhoods because the routines of the occupants (particularly females) are considerably more predictable (Rengert & Wasilchick, 2000). Traditional housewives are the principal guardians of the home during the day and their habits can generally be characterized into time blocks of running errands and transporting spouses and children to and from work, school, and various activities. Working females also have consistent routines throughout the week that extend into the weekend. They find that the most vulnerable times are between 9-11 a.m. and 1-3 p.m., when most females are out of the home. In addition, Hakim and Blackstone (1997) add that most burglaries (residential or commercial) occur within the first year of occupancy, between May and September when more residents spend greater amounts of time away from home, particularly in August and September. Coupe and Blake (2006) also considered the types of dwellings targeted during different time periods. During the day, single-home dwellings with greater cover are more likely to be targeted; at night townhouses or attached residences are more susceptible.

Spatial Attributes

Many burglars offend within close proximity to their own residences (Rengert & Wasilchick, 2000; Wright & Decker, 1994; Hakim & Blackstone, 1997; Goodwill & Alison, 2006; Bernasco & Luykx, 2003). Goodwill and Alison (2005) also report that offenders commit subsequent burglaries close to the location of their initial offense. Reasons for operating close by include a lack of transportation, lack of money for gas, or poor quality of personal vehicles. More importantly, offenders feel more comfortable in familiar environments or where they can blend into the demographics of the neighborhoods, which is common among commercial burglars as well (Hakim & Blackstone, 1997). The chance of residential burglary also increases within a restricted but highly accessible distance from major roads and highway exits (Hakim & Blackstone, 1997; Bernasco & Luykx, 2003). However, commercial burglary is most likely to occur further away from high traffic areas. Wright and Decker (1994) suggest that burglars refrain from areas with elevated police presence, such as hot spots for drug markets. However Rengert and Wasilchick (2000) argue that this position is debatable as criminals are attracted to opportunities around the drug market.

Rengert & Wasilchick (2000) further suggest that offenders engage in passive and active spatial learning. Passive spatial learning occurs as a by-product of engaging in everyday habits and routines, whereas active learning is achieved by purposefully seeking out new information. Alternatively, locations identified through tips are known as chance locations. The type of learning can assist in characterizing the spatial relationships of targets and offenders. Burglaries committed within a close proximity to an offender are often opportunistic or the target selection results from passive learning. Crimes committed within a moderate distance from the offender require more planning and evaluation, thus they are likely to result from active spatial exploration. Furthermore, targets identified through tips or those that are considered high profile are most likely to be further from the offender's home. Generally speaking, however, most offenders operate in areas of slightly higher or relatively equal economic status due to their comfort zones.

Repeat Victimization

Prior victimization increases the risk of future victimization for burglary. Offenders often admit to targeting the same residence multiple times (Wright & Decker, 1994). Victimization studies also report a higher risk of repeat victimization either by the same offender or different offenders in the United States as well as other nations (Bowers & Johnson, 2005; Forrester et al., 1988; Tseloni & Farrell, 2002; Tseloni et al., 2004). In addition, dwellings near the victimized property with similar layouts are at higher risk as burglars find the familiarity of the target particularly attractive (Nee & Meenaghan, 2006; Bowers & Johnson, 2005).

Summary

Burglars target residential or commercial dwellings that are perceived to be affluent. Offenders often operate within a short distance of their own residences, but choose targets with easy access to major roads or highways and have various potential escape routes. Residences with greater natural coverage and reduced visibility to neighbors will be at higher risk. Also, businesses situated in more remote areas with less commercial traffic are more desirable targets. Most residential burglaries occur during the day, but commercial offenses predominantly happen at night. Both of these time frames are indicative of periods when the dwellings are least likely to be occupied.

Cost-effective measures are shown to reduce residential burglary. First and foremost, burglar alarms are reported as having the greatest impact in deterring offenders. In addition, signs that advertise the ownership of an alarm also decrease the attractiveness of the residence. However, research has yet to discern the impact across specific types of alarm technology for residential burglaries. The presence of dogs significantly reduces the risk of burglary. Other types of effective target-hardening devices include dead bolt locks, window locks and pins, window bars, and storm doors since they are perceived to increase the entry time and risk of detection.

Research regarding target-hardening techniques for businesses is limited. However, the available evidence promotes the use of alarms as the greatest prevention measure. Other types of technology also compliment alarm systems such as closed-circuit television, pressure mats, and motion detectors. Hakim and Blackstone (1997) recommend utilizing an alarm and more than three additional security devices.

While target-hardening techniques are a focal point of crime prevention measures, research does not discount the value of educating residents and business owners. Individuals can improve guardianship of their residences by taking greater caution in daily behaviors. For example, creating an illusion of occupancy will diminish the likelihood of being targeted. Most important, fully utilizing existing security measures will decrease the opportunities for victimization. For commercial dwellings, proper awareness of prevention methods will likely reduce their vulnerability. Research also stresses the increased risk of victimization for homes and businesses that have been previously targeted. Better efforts to evaluate the security needs of these homes and businesses will reduce the likelihood of repeated victimization.

III. Comparative approaches for burglary prevention and reduction

Literature comparing burglary prevention and police response in the United States and other relevant countries is limited for a variety of reasons. First, data collection techniques vary, which reduces the ability to evaluate similar problems in different areas. In addition, countries vary widely in the social, economic, political, and historical attributes of their communities and citizens. Furthermore, it is unlikely that crime prevention programs would be implemented in methodologically similar ways which would allow for accurate comparative assessments of success. Therefore, international comparisons are difficult at best.

When reviewing studies across countries, however, some similarities in crime reduction approaches emerge. Mainly the techniques fall within two typologies of crime prevention: community crime prevention and crime prevention through environmental design (which also includes situational crime prevention elements). Overall, crime prevention is most effective when multiple initiatives are used in combination (Forrester et al., 1988) and many of the prevention programs rely on techniques from both typologies.

A few important observations should be noted concerning the available research regarding burglary prevention and policing approaches across countries. Most importantly is the apparent prominence of particular prevention methods within specific countries. For example, the general focus of U.S. research has been community crime prevention while the U.K. publishes a substantial volume of situational and environmental design-focused assessments. Laycock & Clarke (2001) outline key research and policy differences between the two nations and find that research guides crime prevention policy in the U.K., but the role of U.S. research is more complementary in comparison to the power of politics. In general, much of the comparative existing research derives from the U.S. or U.K. specifically. This is not to suggest a lack of comparable efforts from other countries; rather that research, at least those studies published in the English language, concerning techniques for burglary prevention and police responses is not consistently available from other parts of the world. Another barrier to consider when reviewing a body of literature is the natural time lag between policy implementation and potential research and evaluation efforts.

Community Crime Prevention

Community crime prevention focuses on the collaboration of law enforcement and community members to reduce victimization. Within a thorough review by Rosenbaum (1988), community crime prevention seeks to attack crime from many possible angles within a community. This type of crime control is predominant in the U.S. and has been evolving for a significant period of time (Rosenbaum, 1988). Various theoretical perspectives are grounded in the techniques used by law enforcement and citizens such as informal social control, social disorganization, and social guardianship (Zhong & Broadhurst, 2007; Markowitz, Bellair, Liska, & Liu, 2001; Coupe & Girling, 2001; Wilcox, Madensen, & Tillyer, 2007; Wilcox, Quisenberry, Cabrera, & Jones, 2004). Community cohesion plays a significant role in community crime prevention, and

is present in most of the theoretical positions. Community cohesion, or collective efficacy, can be defined as the mutual trust and partnership between community members and their readiness to act on behalf of the common good (Wells, Schafer, Verano, & Bynum, 2006). Markowitz et al. (2001) argues that when community cohesion is reduced, fear and disorder increases, which leads to further declines in cohesion. In order for a community to achieve and maintain cohesion, a sense of security and guardianship must be perceived. Evidence of social guardianship (feelings of protection associated with the presence and willingness of others to intervene) has been linked with decreases in burglaries (Coupe & Girling, 2001; Wilcox et al., 2007). Rosenbaum (1988) offers a model of collective citizen crime prevention which initiates with increased social interactions, leading to cohesion and social guardianship, thus reducing criminal opportunities and increasing risk of criminal apprehension, and ultimately reducing crime and fear.

When deciphering which initiatives actually work, Rosenbaum (1988) suggests that past evaluations are less than desirable due to methodological weaknesses. On the surface he argues that many community programs are cited for reducing fear of crime, such as neighborhood watch programs, but how successful these programs are at reducing actual crime is inconclusive. Laycock and Clarke (2001) support this general conclusion and further contend that the concept of community policing, which fosters community collaboration, suffers from a lack of consensus as to its meaning and has been used to label a variety of policing efforts regardless of the approach. Overall, community crime prevention efforts and community policing are becoming umbrella terms and a lack of evidence exists for their long-term effectiveness in reducing burglary.

Crime Prevention Through Environmental Design

Prevention initiatives developed within an environmental or situational context seek to reduce the opportunities for offending perceived by offenders (Tilley, 2005; Welsh & Farrington, 2003; Bowers & Johnson, 2003a). Several techniques have received recent empirical attention such as closed-circuit television (CCTV), increased use of media and publicity, and improved street lighting. Much of this research addresses reductions in total crime or property crime generally. However, one crime reduction endeavor, the Reducing Burglary Initiative (discussed below), was specifically focused on burglary and provided policy makers and criminologists with some important insights as to successful and cost-effective crime prevention mechanisms (Hamilton-Smith & Kent, 2005).

The effect of CCTV on crime has received considerable empirical attention. This review will utilize evidence from several recent studies, beginning with a meta-analysis (Welsh & Farrington, 2003). This meta-analysis systematically evaluated a body of methodologically sound research that investigated the impact of CCTV on crime and disorder. In order to be included in the study, the prior studies had to meet several criteria. First, the CCTV had to be the primary intervention used for impacting crime, which must be the outcome measure. In addition, the research had to measure crime before and after the intervention in both the jurisdiction receiving the intervention and a

comparison site that did not. In order to qualify, the jurisdiction had to suffer at least 20 total crimes during the time frame prior to the intervention. Given these criteria, Welsh and Farrington analyzed twenty-two evaluations that focused on city centers or public housing, public transportation, and car parks. Because the interest of this particular review was burglary (commercial or residential), we narrowed our attention on city centers or public housing which included 13 studies. Over half of these studies were conducted in the U.K. A total of five total evaluations were deemed to have a desirable effect on crime. Further insight from the meta-analysis revealed a lack of support for a reduction of crime due to CCTV (only nine studies were eligible for the meta-analysis due to the inability to calculate an odds ratio from four evaluations). The most significant shortcoming of this study for present purposes was the lack of evidence of an impact on particular types of crime. However, the studies that did find a small effect on crime were located in the U.K., where CCTV initiatives receive significant public funding. One particular study (positioned against the implementation of CCTV surveillance) suggests the preferential use and positive empirical assessment of CCTV may be biased due to the availability of public funding (Hier, Greenberg, Walby, & Lett, 2007). However, this speculation is not supported by other empirical research.

An alternative study of CCTV seeks to determine whether the presence of CCTV in public spaces reduces the number of calls for service and decreases social guardianship (Surette, 2006). In order to assess the impact of CCTV, the study first had to establish whether respondents were aware of the cameras. The concern was raised due to the possible substitution from reliance on informal social guardianship (witness reports, witness interference) to official social guardianship (video evidence). It was found that the majority of participants did not have a prior knowledge of the cameras. Overall, the concluding evidence did not support the hypothesis that the presence of CCTV decreased social guardianship.

Street lighting is a commonly used environmental design technique for reducing crime by decreasing the opportunities and increasing risks as perceived by the offender. Painter & Farrington (2001) evaluated the financial benefits of improved street lighting in two jurisdictions in the U.K. Both of the experimental areas reported significant reductions in crime when compared to controlled areas. Burglaries dropped by 38% in one jurisdiction and property crimes overall decreased dramatically in the second jurisdiction. Both areas benefited from the improved lighting and the benefits diffused to adjacent non-controlled areas in the second area.

The RBI (Reducing Burglary Initiative) in the U.K. served as one of the leading governmentally funded programs targeting a particular crime issue (Hamilton-Smith & Kent, 2005). The multi-perspective program evaluated which situational crime prevention measures were most successful and cost-effective. The authors categorized the reduction techniques used in this study, as well as outside research, to assess impact and efficiency. Within a situational crime prevention context, the prevention methods were designed to increase the effort and the risk for committing burglary, reduce the rewards, and remove excuses for committing burglary. Successful methods of target hardening (increasing the effort) included increasing locks on doors and windows, alley

gating, improved locks on targeted doors and windows, and fencing. Improved locks for the general area was deemed as cost-beneficial and targeted locks and alley gating were considered an acceptable investment. Among the techniques used to increase risks to the offender, improved street lighting and alarms were perceived as viable options, but neither was deemed financially cost-effective. On the other hand, neighborhood watch groups were cost-effective but remained questionable as a deterrent for burglary. Property marking was the only method of reward reduction considered to be both successful and cost-effective. Provocation reduction techniques such as school awareness and youth diversion programs received overall positive ratings. In addition, techniques aimed at providing guidance of rules for offenders, such as media broadcasts, handouts and landlord registration (rental agreements), were found to have positive impacts.

Various methods of prevention that were designed to be supportive or complementary of other initiatives were both successful and cost-beneficial such as the general use of the media, crime prevention advice packs, aesthetic improvements, and police targeting of chronic burglars. The use of the media in one evaluated jurisdiction was a topic of subsequent studies. Bowers and Johnson (2003a) found clear evidence that publicity prevention schemes significantly contributed to burglary reductions. Furthermore, they speculated upon diffused and continued benefits of publicity, as offenders may perceive their risks for capture as higher due to the increased media coverage. On the other hand, alarms were considered costly compared with alternative strategies. Overall, the resounding finding from this study was that multiple efforts are needed to combat burglary and this study implemented efforts commonly linked to social disorganization, routine activities, social control, and rational choice theories.

Finally, in an overview of residential burglary studies in Denmark, Sorensen (2003) evaluated crime prevention techniques that again focused on situational crime prevention. Among industrialized nations, Denmark ranks fourth from the lowest in use of situational crime prevention methods. However, Sorensen identified those techniques appeared to be most effective. Techniques ranked as medium to high in effectiveness included burglar alarms, cocoon watches (narrowly focused selection of residences to monitor within adjacent properties), restricting perimeter access, modifying pedestrian and motor vehicle traffic, and environmental design techniques.

Crime Displacement

Various burglary reduction efforts have been considered successful, but research warns that such initiatives must consider the potential for displacement effects (Brantingham & Brantingham, 1984). Pease and Litton (1984) argue that it is always possible to show a displacement effect for crime prevention efforts. The evidence of displacement may vary among different types of research endeavors, such as ethnographic research or program evaluations. Empirical investigations often attempt to discern spatial displacement of criminal activity, increased activity of other types of crimes, demographic changes among particular types of offenders, victim displacement, and diffusion of benefits. Most of this research focuses on various schemes that utilize

multiple techniques inherent in community policing and situational crime prevention. Effects are predominantly analyzed using a pre-post or time-series research design in smaller geographic areas.

Ethnographic burglary research consistently highlights the deterrent value of alarms in that if offenders suspect an alarm they are more likely to target another residence or business (Rengert & Wasilchick, 2000; Cromwell et al, 1991; Wright & Decker, 1994). Overall, these particular studies suggest that when residents and business owners increase their level of security, the benefits are spread to others within their immediate vicinity (diffusion of benefits). However, evidence also suggests that when offenders locate vulnerable residences, they are likely to return to the area to burglarize other homes (victim displacement).

Several of the reviewed empirical evaluations that utilized successful multi-focused efforts did not report any displacement effects, such as Forrester et al. (1988) which highlighted techniques for offender motivation reduction and target hardening. In a study of a commercial CPTED program in a major U.S. city, Kushmuk and Whittemore (1981) found no evidence of crime switching from commercial burglary to residential burglary, street crime, or commercial robbery after the implementation of a combined security survey for business owners and residents and street lighting program. In an unrelated study in the same U.S. city previously referenced, an evaluation of a relatively successful residential burglary reduction project that focused on target hardening techniques, including locks and doors, neighborhood watch programs, and security surveys, found that burglary was not spatially displaced to other locations due to the interventions (Beedle, 1984). Another CPTED study compared burglary rates for estates that were certified as “Secured by Design” and ones that were not and found that the certification program was successful and did not result in a switch to other types of crime; however, this analysis was limited to vehicular crimes (Armitage, 2000).

While the evidence of displacement was not apparent in some studies, such effects were found in other evaluations. Mukherjee and Wilson (1987) reported a displacement effect to other types of offenses resulting from a neighborhood watch program. Another evaluation of initiatives, using street lighting and various situational crime prevention and education strategies previously showed to reduce burglary, suggested significant displacement occurred as motor vehicle theft rates dramatically increased (West, 2001). Other burglary reduction schemes in the U.K. that focused on burglary reduction indicated some geographical and crime displacement, but also suggested a slight diffusion of benefits to an area in the immediate vicinity (Bowers, Johnson, & Hirschfield, 2003; Ekblom, Law, Sutton, Crisp, & Wiggins, 1996).

Research regarding the specific effect of burglar alarms on crime displacement is limited in comparison to broader crime prevention techniques. While research supports that crime displacement occurs, some hesitate to assign blame to alarm ownership as they argue that displacement of crime or temporal changes will not be a significant concern until ownership rates dramatically increase (Hakim & Blackstone, 1997). A recent study (Lee, 2008) found that alarms did provide protective benefits to neighboring residents.

This analysis differed in that it utilized the weighted displacement quotient approach which was developed to measure the geographic displacement of crime (see Bowers & Johnson, 2003b).

Summary

Comparing burglary prevention and police response activities is difficult at best. While there may be a theoretical distinction between community policing and crime prevention through environmental design activities, many burglary reduction programs fuse facets from both paradigms into general crime prevention programs. Overall, CPTED and situational crime techniques have enjoyed the greatest success within the body of literature, particularly those efforts focused on target hardening and reducing offender motivation by increasing perceived risks. However, methodological barriers are inherent in evaluating the success of any type of crime reduction scheme.

Evidence of displacement effects following burglary reduction programs is not conclusive. Many of the reviewed studies focused on smaller geographic areas and did not analyze various types of crimes, offenders, or victims. Furthermore, programs often implemented numerous types of interventions and the independent effects were not identifiable. While this does not reject the general consensus that displacement effects do in fact occur, it prompts practitioners and researchers to carefully design future programs and evaluations in order to carefully identify the benefits or consequences of burglary reduction programs.

IV. Implications of false alarm response for police and suggestions for reducing false alarm workload for law enforcement

Within the body of research concerning false alarm responding, two major themes emerge. First, studies investigating alternative approaches to traditional police responses have been considered. Exploring the economic implications of false alarm response comprises another body of research. Considered collectively, these areas of research, while not mutually exclusive, produce several viable strategies for managing the consequences of false alarms.

The Extent of the Problem

The primary concerns with false alarms are the negative impact upon citizens, public service providers, and alarm service agencies. False alarms pose a clear burden on law enforcement agencies and this issue has been consistently acknowledged for quite some time (Webster, 1970). Current evidence suggests that 94% to 99% of all alarm activations are false (Hakim, Rengert, & Shachmurove, 1995; Blackstone, Buck, & Hakim, 2005). Research also suggests that false alarms are not evenly distributed across the population of alarm owners, but rather a small percentage of owners are responsible for a greater proportion of false alarms (LeBeau & Vincent, 1997). While rates of false alarm responses vary across cities, the underlying implication for any jurisdiction is the increased costs associated with false alarms. It is estimated that false alarms consume between 10-20% of patrol officer time and the estimated cost ranges between \$50 and \$90 per call (Blackstone, Buck, Hakim, & Spiegel, 2007). In 2000, the national cost for responding to 36 million false alarms approximated \$1.8 billion, which roughly equals the work time of 35,000 police officers (Blackstone, Hakim, & Spiegel, 2002). Furthermore, because a substantial amount of resources are occupied during false alarm calls, overall officer and agency productivity and responsiveness decreases.

Who Has Responsibility?

Aside from the resource implications associated with false alarms is the issue of whose responsibility it is to shoulder the costs. Police services are considered public goods that are provided to all citizens within a jurisdiction (Blackstone et al., 2005, 2007). However, when police services are dispatched to one location, they may not be used in another which results in an impure form of public goods (Weimer & Vining, 2005). Blackstone et al. (2007) argue that police services become private goods when a call for service is false; therefore police are overwhelmingly providing private services at increasing costs to the public. Although, they also note that police respond without prior knowledge of whether the service will be a private good or a public good.

As alarm ownership rates rise, so does the volume of calls for police services (including false alarm calls). When the consumer demand rises to a point beyond where the jurisdiction can supply police services at a cost-efficient amount, crowding can result. More technically defined, a good is congested (crowded) when the cost to society for providing the good exceeds what an individual consumer would have been charged had it

been a private good, which is sold at an amount that is equivalent to the consumer's valuation of the good (Weimer & Vining, 2005). Simply stated, the cost of publicly providing police services must be the same as if they were provided privately for each additional consumer. Otherwise, the quantity demanded cannot be provided without incurring a loss. Congestion creates other issues as well. As the market is flooded with demand for police services, the available amount for each additional user decreases (Blackstone et al., 2007). Furthermore, when the price of providing the services exceeds the charge set by the jurisdiction (fees or fines), the public overuses the services suggesting an even greater decrease of available services.

What Steps Can Be Taken?

Efforts to decrease illegitimate activations, police workload, and financial burdens have varied from attempts to alter owner behavior to technological advancements developed by the alarm industry. These methods of managing false alarms can be separated into three broad categories of responses: public, private, and public-private collaborations (Blackstone et al., 2005). Public responses, generally carried out by local governments, aim to regulate private security services and educate consumers. Private responses include strategies that are developed strictly by private suppliers of alarm systems. The third category includes those situations where private providers and public entities (predominantly the police and emergency response providers) work in partnership to manage the problem.

Public responses consist of approaches taken by the police and local governments. Jurisdictions commonly impose alarm registration fees, fine structures, and licensing restrictions. Regulatory objectives include generation of revenue for the cost of police response and response management (e.g. restriction of police response to alarm activations for residences or businesses without current permits). Fine schedules often incorporate a standard of grace in which an alarm owner is appropriated a maximum number of false activations per year without incurring penalties. This alleviates sanctions for random user error or faulty equipment. Some jurisdictions graduate the fine in accordance with false alarms and may also discontinue delivery of police services, revoke user licenses, mandate that alarm owners attend classes, or impose criminal charges after a predetermined number of illegitimate calls for service (Gilbertson, 2005; Blackstone et al., 2005, 2007).

These options seek to alter user behavior, but advancements in technology have also been used to help reduce false alarms. For example, enhanced verification techniques may decrease calls for service by seeking to verify the legitimacy of the alarm by telephone at the location and at an alternative number. Security providers may offer speakerphone systems to interact directly with the monitoring company during alarm activations. Other evidence suggests that routing calls from the alarm company to an alternative phone line, in which a fee is imposed on each call, increases the likelihood of verification for the need to respond and of company-sponsored consumer education (Blackstone et al., 2007).

Public responses to reduce the negative impact of false alarms have not found substantial research support to date. Perhaps the most cited reason is the inability or refusal of jurisdictions to charge private consumers the full cost of responding to illegitimate calls (Blackstone et al., 2005). The implementation and operation of a regulation system also requires additional work by either law enforcement or another governmental agency. Fines and other penalties may be viewed as public relations hazards between the community and law enforcement. In addition, not all jurisdictions maintain alarm ordinances, resulting in an inability to levy penalties or user fees.

Economic issues exist with fine structures as well. Fines are most efficient if the price is equal to the marginal cost of the police response (Blackstone et al., 2005). If the penalty is less than the cost, the service may be at risk for overuse and greater financial burdens will incur. If the price of the fine is greater than the cost, questions of redistribution effects and inefficiencies arise. Furthermore, unless the alarm owner is sensitive to the price of the fine, their behavior will not change. For example, perhaps the fear of burglary is so high that no amount would decrease the demand for police response to any alarm activation. Conversely, some alarm owners may deactivate their systems if the fines extend beyond their willingness or ability to pay. Another concern is that when fines are collected, they are not generally directed back to the responding agency. Therefore, the financial burden of the police agency is not directly compensated. A final issue is that even when fines equal the marginal cost of responding, it may have a differential impact among communities with minimal false activations versus those with more repeat abusers (Blackstone, Buck, Hakim, & Spiegel, 2007). Overall, fines or other financial responses are not well received within the body of research reviewed here.

A purely private response is one in which the alarm company is directly responsible for responding to the call for service associated with an alarm. Several factors associated with this type of response must be considered. First, in cases of actual burglaries, the private security agency may not have the legal capacity to detain or apprehend offenders (Light, 2001). Thus, the police must ultimately be dispatched to make arrests. Second, should a private security officer without adequate training respond to an actual burglary, the safety of the officer and the public may be at risk, potentially posing significant liability concerns for the private alarm company. However, in cases of false alarms (which comprise the majority of activations), the private sector would internalize the costs of service and this burden would therefore be removed from public coffers. In addition, creating a private market for response may lower the costs of services through market competition, as well as increase consumer welfare by allowing customers to choose services that match their preference (Blackstone et al., 2005, 2007).

The third alternative is the public-private collaboration response. A partnership between both is deemed by Blackstone et al. (2005, 2007) as the most effective means of providing services to alarm owners. Primarily, physical verification by a private firm prior to the dispatch of police has been shown to be highly advantageous in discerning the true need for response. In case studies, verified response (VR) increased the response time of police in legitimate alarm activations, significantly reduced the burden (financial and physical) on public services, and increased consumer welfare (Blackstone et al.,

2007). Ultimately, private agencies incur the cost of false alarms that are generated by private consumers. Thus, the public is not levied the responsibility of raising revenue for services consumed by a select number of community members.

While research promotes alternative approaches to help combat the burdens caused by false alarms, a lingering question exists as to whether privately owned alarms are beneficial to the larger society. Evidence from limited empirical evaluations maintains that burglary alarms reduce the risk of victimization, which implies a benefit to alarm owners (Sampson, 2001). However, only one cost-benefit analysis of alarms conducted within recent years was identified in which the value of alarms to the broader society was evaluated (Hakim, Rengert, & Shachmurove, 1995; Hakim & Shachmurove, 1996). This study employed various calculations to determine whether burglar and fire alarms were beneficial methods for crime prevention and safety. The results indicated that residential and commercial burglar and fire alarms provide greater societal benefits than their associated costs. Although this finding offers support for continued use of alarms, readers must keep in mind that these findings were specific to the studied jurisdiction. Furthermore, the methods of valuing costs and benefits can be and is typically subjective. For example, the authors noted great difficulty in estimating the benefits of avoiding demoralization from a fire. Items included in the cost calculation included personal possessions that do not have a recoverable value, yet a theoretical monetary value was assigned. While the accuracy or legitimacy of the monetary value is not questioned, caution is advised when considering any existing cost-benefit evidence.

Summary

The dilemma of false alarms is not easily alleviated and a multi-focused response is warranted. Based on this review of the literature, several key suggestions might be offered. First, physical verification is recommended as the most efficient means of reducing illegitimate calls for service. The collaboration between the law enforcement agency and security agency will provide better service at lower costs. Further, this approach might benefit from advanced technology for physical verification, such as video transmissions as reported in Blackstone et al. (2005). Second, available technology can be used to identify jurisdictions that can be zoned according to their likelihood for false activations. This process is becoming much more feasible with the advancement of spatial analysis. Commonly identified divisions include industrial, commercial, and residential; however, residential neighborhoods can also be divided according to estimated (and past) demands for service. Zoning will allow responders (whether police or private security) to determine the adequate proportion of resources to allocate to particular area. Furthermore, spatial-temporal analyses can advance the understanding of alarm activity within specific timeframes, days of the week, weeks of the year, etc. Third, while not favorable within the review of the literature, fees are widespread and may yet serve as an effective deterrent. However, the fee structure must represent the cost of police response to false alarm calls and then be redirected to the appropriate agency rather than the general revenue fund.

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