Burglary Offender Characteristics Can Be Predicted
ENHANCING INVESTIGATION EFFICIENCY THROUGH THE
DEPLOYMENT OF PROBABILITY MODELS

By Dr. Chris W. Eskridge

Introduction

Crime is not a new phenomenon in American living. For decades, researchers have documented and projected the growth and devastating complexity of the crime problem in the United States, its causes, and its destructive effects on national life. The intense damage to innocent persons, property, and spirit, coupled with the lingering fear of unprovoked, unpredictable violence are indeed familiar entities in all realms of society.

The crimes against property, because they often affect the personal safety of the populace, are the source of much public concern. Burglary, defined as the unlawful entering of a building to commit a felony or a theft, whether force is used or not, is so frequent, so costly, so upsetting, and so difficult to control that it places great demands on the criminal justice system. Preventing the crime of burglary demands imaginative methods of police patrol, and solving burglaries calls for great investigative patience and resourcefulness.

The need for broad reforms and improvements in criminal justice planning and information systems has been identified by numerous sources. A key recommendation concerning the establishment of reform ideas is the creation of organizational structures for coordinating the development of criminal justice information systems. Because many burglars are habitual criminals, determining repetitive characteristics of both the offender and the incidents is possible. This information must be used in attempting to centralize the process of identifying, apprehending, and convicting burglars.

A recently published study supported by the National Institute of Law Enforcement and Criminal Justice identified the need for development of improved response procedures concerning crime by way of centralized information services (Van Kirk, 1978). The study suggested the establishment of community beat profiles based upon the best and most current of street crime intelligence as well as systems for rapidly disseminating information relative to base perpetrator identities: e.g., race, age, prior convictions, area of incident, etc.

One such information system has been successfully implemented by the New Haven Police Department in New Haven, Connecticut. A similar project has been undertaken in King County, Washington, where an attempt was made by law enforcement agents to identify and to observe known residential burglars in the target area.

Research Rationale

While criminal justice literature is replete with numerous crime-specific studies ranging from shoplifting (Cameron, 1964) to homicide (Wolfgang, 1958), a notable exception has been the lack of substantive quantitative research devoted to the crime of burglary. Several studies exist which have explored the legal, social, and psychological aspects of burglary and recognized their value in describing the relationship of burglary incidents to social area attributes and changes occurring over time (Dunn, 1975; Reppetto, 1974, Scarr, 1973, Green, 1976; Shover, 1972, 1973). However, few studies have undertaken comprehensive investigations of the patterns of burglary incidents. Indeed, an examination of individual burglary characteristics and their inter-relationships has not yet been adequately pursued. (Pope, 1977, p. 7). Findings from these studies and aggregate data reported in the Uniform Crime Reports are summarized below:

(a) A large proportion of all burglaries are committed by juvenile offenders, that is, offenders under 18 years of age.
(b) Burglary is a crime more likely to be committed by males than by females.
(c) Burglaries are about equally likely to be committed by single offenders as by offenders working in groups.
(d) Black/other offenders are generally over-represented in the commission of burglary in proportion to their respective population base.

Research Purpose

The purpose of this study was to collect information relative to individual burglary characteristics in an attempt to statistically derive a predictive device that could be used to assist police officers in identifying potential burglary suspects. The New Haven, Connecticut Police Department appears to be the only police department in the country currently using any type of statistical prediction device in its criminal investigations. This study sought not only to construct a specific statistical instrument of prediction but also to develop a model that could be put into operation by any police department. The development of this prediction device is founded on the assumptions that differences exist between individual burglars and that the characteristics surrounding individual burglary incidents can be statistically identified and predicted.
The research question is whether and to what extent offenders identified as non-residential burglars are associated with specific types of offenses.

Methodology

In an attempt to identify the aforementioned typology and to construct the prediction scales, data were collected from all burglaries cleared by arrest, citation, and identification by the Lincoln Police Department from November 15, 1978 through May 15, 1979. Data were collected from case files on record.

During the study period, 160 burglary incidents were cleared by arrest and/or identification by the Lincoln Police Department for penetrating more than one establishment in the study period. Two-thirds of the identified burglars worked as a group of two or more, and groups of two or more were responsible for just under half (42 percent) of the burglary incidents. These figures were reflective of the total of 271 intrusions cleared by the Lincoln Police Department during the period of study. If, for example, a burglary were found to be the work of three burglars working as a group, the episode was recorded as being the incident and three burglary intrusions.

A selected frequency distribution is presented in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Type of Establishment</th>
<th>I</th>
<th>Variance of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>commercial</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>residential</td>
<td>130</td>
<td></td>
</tr>
</tbody>
</table>

The data were subjected to a number of statistical analyses. While an articulation of all the information ascertained during the course of this work, the purpose of this paper is to identify a few of the major findings.

Typologies were developed on the basis of zero-order correlation — i.e., removing the possible interaction of major offender variables. Using the correlation coefficients (r) which were significant at the .05 level, the following typologies were developed:

1. Those who burglarize in groups tend to penetrate a commercial establishment (r = .27), with an average offense distance of .8 miles.

2. Burglaries perpetrated later in the week are more likely to be commercial establishments (.191) at night (.267) by burglars who tend to commit more prior misdemeanor arrests (.104) and fewer felony arrests (.142), have spent less time in the city/county jail (.142), and have traveled less to commit the burglary (.202) than were the burglaries perpetrated during the week.

3. The loss from burglaries tends to be greater when commercial establishments are involved (.120) and when the burglar is white (.213), have fewer prior felony arrests (.204), have fewer prior misdemeanor arrests (.387), and are more likely to inflict a greater value on the establishment (.174), to be male (.171), white (.171), and have fewer months incarcerated (.168) than offenders acting alone.

4. Burglaries perpetrated later in the week are more likely to be commercial establishments (.191) at night (.267) by burglars who tend to commit more prior misdemeanor arrests (.104) and fewer felony arrests (.142), have spent less time in the city/county jail (.142), and have traveled less to commit the burglary (.202), and were less likely to be commercial establishments (.114) than were the burglaries perpetrated during the week.

5. Female burglars tend to be non-whites (.286) who have had fewer felony arrests (.107) and fewer burglary arrests (.113), more prior robbery/farcery arrests (.348), more months incarcerated (.190) and travel less to cities/county/jails (.331), and are more likely to commit a day-time burglary (.188) of a residential establishment (.218) and work alone more often (.171) than male offenders.

6. Older burglars tend to be non-whites (.156) who have had more prior misdemeanor arrests (.135) and robbery/farcery arrests (.170), who have spent more time in city/country/jails (.153), are more willing to use a forced entry (.113) at night (.147).

7. Non-white burglars tend to have more prior misdemeanor arrests (.211), more prior robbery/larceny arrests (.269), more months incarcerated (.120), and travel less to cities/county/jails (.395) and state/federal penal facilities (.131), to penetrate residential establishments (.114) to inflict a smaller loss upon the establishment (.114), than white offenders.

8. Burglars who travel farther to commit a burglary tend to have had more prior felony/arrests (.167), have spent more time incarcerated in the city/county jail (.202), are more likely to penetrate a commercial establishment (.241) earlier in the week (.241), are more likely to be a group of offenders (.512) and inflict a greater loss (.256) than those who travel shorter distances.

A review of the standardized discriminant analysis coefficients presented in Table 2 reveals the existence of a direct relationship between the nature of burglars involved and the type of establishment burglarized and the value of loss. An inspection of the coefficient matrix revealed that burglars acting alone (.142) and working alone (.171) were more willing to commit a burglary (.202) than are burglars involved in a burglary incident. The discriminant analysis of the data relative to the number of offenders involved in a burglary incident suggests that the type of establishment, day of occurrence, value of loss and type of entry are significantly related to the number of offenders involved in a burglary. In other words, given that the type of burglarized establishment is known, as is the day the burglary occurred, the value of the loss, and the type of entry, the prediction device can be used as to the number of offenders who were involved in the offense.

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in the application of these computer identified probabilities for they do not amount to probable cause for arrest. On the contrary, such computer constructed categories and probabilities only suggest the need to interview and observe, not to focus.

Research Limitations

A number of theoretical limitations of predictive devices must be addressed. Of prime concern is the generalizability of the device. Instruments that are constructed and validated at one point are not necessarily valid indicators at other times. Indeed, when data other than that used to construct the device are applied, the results become suspect. This study focused entirely upon cleared burglaries, not all burglaries and not burglary convictions. The prediction devices and typologies that were detailed represent analyses of events and persons known to the police. The data set must therefore be classified as an availability sample. While prediction devices cannot foretell with 100 percent accuracy, they can increase the amount of information available. The value of this current prediction device is in its ability to bring more meaningful information into the investigation process. While it cannot be viewed as a replacement to competent street investigation, it can serve to aid that investigation.

Paralleling this generalizability problem is the notion of instrument decay. Routine adjustments of a prediction device are required if the instrument is to retain its usefulness. Likewise, increases in the size and longitudinal basis of the scale construction data set can serve to increase the reliability of the device. This current study constructed an instrument with a relatively small amount of data representing a six-month period now several months old. Consequently, this current device cannot be viewed as a reliable predictive instrument at this point but rather as a model prepared for future refinement.

Summary

This study examined individual burglary and burglary characteristics and their relationships with a relatively small (six-month) data set drawn from Lincoln (Nebraska) Police Department files. While further articulation will serve to contribute to knowledge about the nature of those characteristics and relationships, the primary contribution of this work appears to be the development of a practical burglary prediction model. Caution must be used, however, in the deployment of any similarly devised prediction instrument. While the use of the device may increase both the nature and extent of the information available to investigative officers, it is neither a replacement for the elements of probable cause nor a replacement for competent field investigation.

REFERENCES


Vol. VII, No. 11

November, 1979

Published monthly by the Center for Applied Urban Research as a public service and mailed free upon request in Nebraska. Annual subscription rate outside Nebraska $3.60. The views and opinions expressed in the Review are those of the individual authors and do not necessarily represent those of the University of Nebraska at Omaha. Material in this publication may be reproduced with proper credit.

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