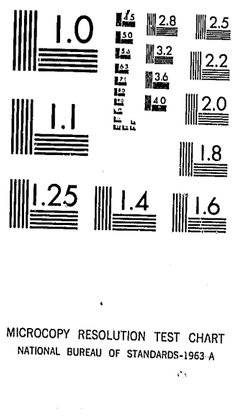

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Victimology Research Agenda Development

Volume I: Invited Papers

The MITRE Corporation

MTR-80W221 Vol. I

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Victimology Research Agenda Development

Volume I: Invited Papers

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ABSTRACT

This document presents eight papers in areas of victim-related research. The papers were commissioned as part of a project to develop a research agenda in the area of basic victimology for the Office of Research Programs of the National Institute of Justice. The papers represent state-of-the-art summaries with research recommendations for a range of victimology topics which have been the subject of empirical study in the past.

ACKNOWLEDGEMENTS

There are a number of individuals at the National Institute of Justice and at LEAA who provided valuable assistance to this project in planning the project activities, in the selection of topics and of authors and as participants in the workshop. These are Walter Burkhart, Director of the Office of Research Programs; Richard Barnes, Director of the Center for the Study of Crime Correlates and Criminal Behavior; Fred Heinzelmann, Director of the Office of Community Crime Prevention; Bernard Auchter of the Office of Community Crime Prevention; and Jan Kirby, Program Manager of the LEAA Victim/Witness Unit. We would also like to thank Emilio Viano, Director of the National Victim/Witness Resource Center, who also contributed to the project. Finally, special thanks go to Bernard Gropper, the Program Manager, for his assistance in all these areas throughout the whole effort.

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INTRODUCTION

The Victimological Research Agenda Development project was undertaken in the fall of 1979 to assist the Office of Research Programs (ORP) of the National Institute of Justice (NIJ) in the development of an expanded research program in victimology. To date, most of LEAA's and NIJ's action and research efforts have been offender and crime-oriented, reflecting an emphasis on law enforcement and the criminal justice process. However, as the victim has become a more salient public issue, the LEAA and NIJ have devoted increasing resources to the victim area. By and large, the research performed has been applied in nature--directed toward improving services to victims, enhancing the witness function, and addressing the specific problems of unique victim constituencies like rape or child abuse victims. It was felt that an expanded program of research focusing on characteristics of crime victims and the victimization process and treating victims as integral parts of criminal situations would provide a valuable complement to the NIJ criminological research. Judging from the improved knowledge about the crime of rape, for example, which has emerged from information recently derived from rape victims, it seems that victimological research is particularly promising in terms of its potential contribution to the NILECJ's goals of (1) improving knowledge of the correlates of crime and the determinants of criminal behavior, (2) developing better methods for the prediction of crime, and (3) increasing the capability to prevent and control crime.

Potential topics in the area of victimology and victimization were selected based on a review of the literature and researchers were identified who have established an ongoing record of quality research in empirical victimology. Papers were commissioned in each topic area and a workshop was convened for the purpose of inviting dialogue among researchers so that new and relevant areas of victim-related research could be identified through the presentation and discussion of the invited papers.

This report is the first volume in a series of these volumes devoted to the Victimology Research Agenda Project. This document, Volume I, contains the eight invited papers presented and discussed at the workshop. Volume II presents the edited proceedings of the colloquium. Volume III presents a review of the issues raised in the papers and the colloquium and provides research recommendations to NIJ.

ON THE ETIOLOGY OF CRIMINAL VICTIMIZATION*

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The assertions that the amounts and kinds of victimization experienced by a group of people or by a class of objects depend on their exposure to crime and that some people or some kinds of objects are more exposed than are others have never been particularly controversial among criminologists. They appear, at least implicitly, whenever a rate is altered so as to reflect more adequately a "population at risk." For years some criminologists have argued vigorously for the tabulation of data about crime in ways that would be indicative of risk. Rather than norming each crime type to the number of persons in the population, it has been argued that, for example, the base of the household burglary rate should be the number of households, the base of the rape rate should be the number of females, and the base of the automobile theft rate should be the number of automobiles.

Of course criminologists are not the only ones who see the relevance of the idea of exposure to risk. People who lock their cars downtown but not in the suburbs attend to this idea. So too does the father who drives his daughter to the evening movies but allows her to walk to the matinee. And, of course, the police have always attended to it, by increasing their activity at night for example. All assume that there exist high risk people, objects, places, and times.

This conventional wisdom has long been taken for granted by criminologists. But apart from the few measurement oriented criminologists who worked with the "rate problem," most saw the issue either as trivial or as simply another in the litany of problems with crime statistics marring their utility for scientific purposes. Either way etiological criminology need not be overly attentive.

But the advent of victimization surveys allowed researchers to vary their rates according to relatively specific populations in ways

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*The contributions of Michael J. Hindelang and James Garofalo to the ideas expressed in this paper are gratefully acknowledged, as are the comments of Michael Hindelang and Travis Hirschi on a draft of this paper.

that official data had only grudgingly permitted.[1] Although far from being rid of measurement problems, these data demonstrated marked differences in victimization probabilities as subgroups varied. And these differences were not entirely specific with respect to the type of common victimization studied. Thus, it became increasingly difficult to dismiss these findsings, in conjunction with some strikingly similar findings that had long been available from official data, as purely artifacts of measurement.[2]

But as far as scientific criminology goes, the triviality problem remained. To say that differences in the probability of victimization depend on differences in the amount of exposure to crime that different populations have may be true, but is it an adequate way to go about explaining crime? How does it advance our ability to predict and explain victimization?

In order to answer these questions it is useful to distinguish the concepts of absolute and probabilistic exposure. Absolute exposure consists of those characteristics of persons, objects, time, or space that are logical requisites for the occurrance of a specific form of criminal victimization. Without absolute exposure a crime cannot occur. Thus, the auto theft rate in the 18th Century was zero, and the child abuse rate for childless couples is negligible. To specify these rates, which are conditioned by absolute exposure, is to state the obvious. Predictions based on the concept of absolute exposure are often considered to be trivial because they are logical predicates of victimization. But of course if predictions based on the concept of absolute exposure are indeed trivial--in the sense of "common," "obviously correct," or "true"--they would be important foundations for a theory of criminal victimization. For in the early stages of the development of theory it is critically important that everything be trivial, in these senses of that term. Some reflection will demonstrate that statements about absolute exposure have as yet

[1]Some researchers had, of course, varied at-risk populations using official data prior to the widespread use of victimization surveys (e.g., Reiss, 1967; Boggs, 1965; Reppetto, 1974). Of course, the large sample sizes available from some victimization surveys, coupled with the collection of more data about victims, has allowed considerably greater specificity in these rates.

[2]Certainly this is not to say that there are no differences between victimization data and official data in the rate differences each portrays, but rather that some large rate differences are robust with respect to the method of measurement. For the most thorough and careful review of the methodological issues in victimization surveys yet published, see Hindelang (1976).

to reach the heights of trivia; most continue to be specified a posteriori rather than created a priori. Recently, however, some important advances have been made in the theoretical specification of absolute exposure (see especially Cohen and Felson, 1979:589).

Probabilistic exposure requires absolute exposure. It refers to differences among people, objects, places and times in their opportunity for victimization, given that victimization is logically possible.[3] Probabilistic exposure is an important concept in the explanation of criminal victimization only insofar as there are objective differences in the rates of victimization as the denominators of the rates (and the corresponding numerators) vary. Probabilistic exposure is a useful explanation, in the scientific sense, only insofar as we have mechanisms that allow us to predict how changes in the constellation of our ratios change victimization rates.

The questions then become first, whether probabilistic exposure is random or not given the absolute exposure of people, objects, times and places,[4] and second if such exposure is not random whether it is possible to identify constructs with sufficient abstraction that permit the accurate prediction of probabilistic exposure. Considerable recent research and theory have been devoted to these questions. This work cannot be summarized easily, although a brief review of some of it that bears directly on these two questions may facilitate discussion concerning future research agendas.

Probabilistic Exposure as Non-Random

Neither the existing data nor common sense would lead us to conclude that probabilistic exposure for the crimes of common theft and assault is random. Wilkins (1965:75) makes the point clearly:

[3]The distinction between absolute and probabilistic exposure is somewhat tenuous. In most discussions of exposure (or opportunity), exposure is the intervening variable between the antecedents (e.g., lifestyle) of victimization and crime; the task is to predict exposure under the assumption that to do so is also to predict victimization. Where absolute exposure is absent it cannot specify the relationship between the antecedents and crime. It is therefore a necessary condition for any victimization. But clearly it is not a sufficient condition. Therefore, a major task for theory is to describe absolute exposure. One way of doing this is to specify the offender populations and their time-space behaviors (see Hindelang et al., 1978: Chapter 11).

[4]See Sparks et al., (1977:106).

> Let any (non-criminal) reader try to imagine himself in the position of being required to commit a crime - say one of the most common crimes like larceny or breaking and entering - within the next twelve hours. Few readers would select the victim completely at random, unskilled at victim-selection though they might be. There will be something approaching rationality in the selection of the victim.

Thus, given a motivated offender (with respect to the successful accomplishment of crime),[5] it seems most unlikely that all persons, objects, times or places are equally probable targets for the offense. Not everything with absolute exposure is equally desirable, convenient or vincible.[6]

The available data on victimization consistently show that the likelihood of victimization from a crime of common theft or assault varies dramatically by characteristics of persons. And many of the findings are consistent regardless of whether official measures or victimization survey measures are used as the criterion. These patterns are familiar; for example, for personal crimes in the United States, victimization rates are higher for the poor, males, blacks, the young (16-19), the single, and the urban resident (see generally, Reiss, 1967; Hindelang, 1976; Boland, 1976; Hindelang, et al., 1978; Gibbs, 1979). Differences in victimization rates according to various attributes have also been found in surveys conducted in other countries (see, e.g., Sparks et al., 1977 (London); Steinmetz, 1979 (Netherlands)). When attributes such as these are considered simultaneously, they often produce very large differences in the likelihood of victimization (Hindelang et al., Chapter 5; Cohen and Cantor, 1980). And in the victimization surveys, many of these differences seem to be robust in the sense that they maintain under alternative counting and weighting mechanisms; for example, by Sellin-Wolfgang seriousness weights (Hindelang, 1976:Chapter 6) or by the inclusion of "series" victimizations under various assumptions (Hindelang, 1976:Appendix F).

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[5]We will return to the concept of motivation in a later section of this paper.

[6]These terms are taken from Hindelang et al., 1978:Chapter 11. Similar concepts are invoked by Cohen and Felson (1979:589). e.g., "suitable targets" and "capable guardians".

A related line of recent research bearing on the notion of probabilistic exposure concerns the issue of multiple victimization - those persons who report experiencing repeated victimization. Although the conceptual and empirical issues present in this line of research are beyond the intended scope of this discussion (see generally, Sparks et al., 1977:88-100; Hindelang et al., 1978:Chapter 6; Nelson, 1980a, 1980b) the overall empirical results of research into the question of multiple victimization have been at least consistent with the demand of the exposure model; i.e., that such victimization is not adequately described as a random process. Sparks et al., (1977) found that Poisson expected and observed frequencies of mutliple victimizations for both property and violent offenses were significantly different in their London survey.[7] Hindelang et al., (1978) showed that Poisson expected and observed frequencies of personal victimization in the 26 NCP city surveys (considered in aggregate) differed significantly - multiple personal victimizations (and household victimizations as well) were reported substantially more often than the independence model predicted. Furthermore, they found that, regardless of the age, race, income, marital status, or sex of the respondent, the likelihood of being the victim of a personal crime was much greater for persons whose households were also victimized during the reference period (1978:137). A clustering of risks was also found within households; persons residing in households in which other household members reported a personal victimization were far more likely to report experiencing a victimization themselves than were persons in "victimization-less" households. And repetitive victims were more likely to be victimized by nonstrangers than were "non-repetitive" victims. (Although two-thirds of the repetitive victims were victimized by strangers). These data are important insofar as they establish a link between personal and household victimization independent of the demographic correlates of victimization, thus implying a time and space risk dimension (1978:148). Recently, Nelson (1980a) showed that the Poisson model is not compatible with the household burglary data in the 26 city surveys. He also discovered that a contagion model--in which once a person has suffered a victimization, the chances of subsequent victimization are enhanced--may not be compatible with the victimization data.

The simple Poisson model of independence has consistently been found to be an inadequate fit to the observed data on multiple victimization for the population. Research to date has been unable to

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[7]Sparks et al., cite similar results for studies in Finland, Denmark, and Maricopa County, U.S.A., (1977:90).

partition the population along demographic dimensions in such a way that identifies groups of persons who have the same rate of victimization (i.e., subgroups for which the number of victimizations follows the simple Poisson model. See Sparks et al., 1977; Nelson, 1980a). However, recently Nelson (1980a, 1980b) has shown that the negative binomial model -- a model consistent with the view that persons have different victimization rates and that these rates remain constant over time - could not be rejected as being compatible with the observed frequencies of burglaries and personal victimizations in the NCP five largest cities samples.

Such data are consistent with the proposition that probabilistic exposure is non-random (that is, that there exist high risk persons, objects, times and places), but of course do not demonstrate that differential exposure is a critical determinant of personal victimization. The establishment of large differences in the likelihood of victimization for different groups and the demonstration of victim proneness are requisites to the idea that differential opportunity is a tenable component of the etiology of criminal victimization, but the link between such differences and exposure needs to be forged. The available research supports the idea that some people are more victim-prone than are others; to date the link between the characteristics of the observed victim-prone people and criminal victimization, through the concept of exposure, has been largely a matter of inference. Several recent inferential statements in this regard can be briefly highlighted as one mechanism by which future research hypotheses might be advanced.

The Prediction of Probabilistic Exposure

The prediction of probabilistic exposure to criminal victimization must begin with a statement of the time-space-person coordinates in which victimization is most likely. Once identified, the task becomes one of describing the characteristics of persons and objects that are most likely to intersect those coordinates. In attempting to define these cordinates my colleagues and I (Hindelang et al., 1978:Chapter 11) as well as others (e.g., Cohen and Felson, 1979) look to the distribution of victimization as described in both official and unofficial measures of crime. These measures are largely consistent, for the United States, in indicating substantial differences, (and in the direction of the differences they indicate), in common crimes according to time of day, place of occurrence, the victim-offender relationship, and demographic characteristics. In the lifestyle model that we have proposed, these characteristics of criminal incidents are taken as given. Because we are, in effect, trying to predict who will likely intersect with these coordinates, it is obviously critical that they be as accurate as possible. Certainly, the measurement of these characteristics is not now error free, and the greater the precision in measuring these characteristics

of criminal incidents the greater will be the precision in predicting victimization. Considerable research effort should thus be expended in enhancing the accuracy of the measurement of these characteristics, as specifically as possible. (It will be noted that the lifestyle-exposure model of the etiology of victimization overlaps considerably at this point with work in the etiology of criminal offending. Both require precise and valid measures of the offending population, and to the extent advances in etiological work on offending occur, they are likely, if the model is correct, to yield advances in the etiology of victimization as well).

Broadly, the exposure model then suggests that the probability of victimization depends on the amount and kind of interaction that people have in these high risk coordinates (Hindelang et al., 1978: Chapter 11; Sparks et al., 1977:104; Cohen and Felson, 1979). Our own predictions of this interaction invokes the concept of lifestyle.[8] Briefly, lifestyle refers to routine daily activities, both vocational activities--such as working, going to school, and keeping house--and leisure activities. What is offered is a theoretical model that postulates the antecedents of lifestyle and the mechanisms that link lifestyle with victimization.

The basic model is shown in Figure 1. We postulate that role expectations and social structure impose constraints to which persons commonly adapt in our society. These role expectations and structural constraints for any individual depend upon that individual's constellation of demographic characteristics.

Role expectations, as used here, refer to cultural norms that are associated with achieved and ascribed statuses of individuals and that define preferred and anticipated behaviors. The role expectations with which we are concerned are those that pertain to central statuses of individuals--central in the sense of having a diffuse influence on the person occupying the status. For example, role expectations vary dramatically with age; what is expected and/or deemed appropriate behavior for a child is generally not what is expected of an adult. Similarly, traditional American child-rearing practices involve implicit and explicit definitions of role-expectations--the differential propriety of dress, manner, expression of emotion, choice of play objects, etc.--depending on the sex of the child.

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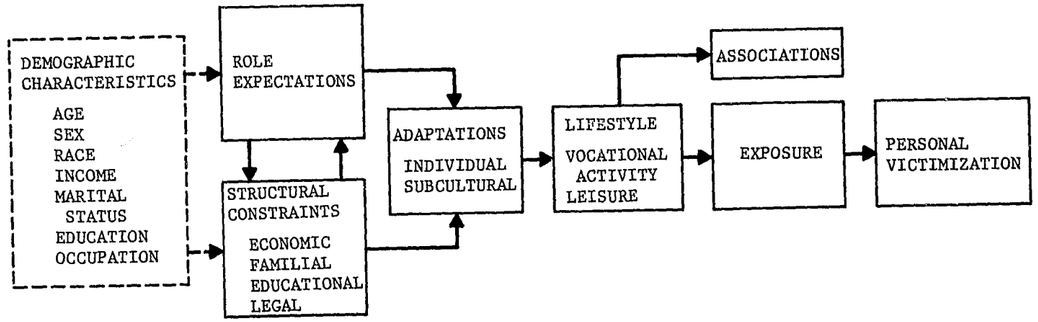
[8]The following section relies heavily on portions of Chapter 11 in Hindelang et al., 1978.



SOURCE: VICTIMS OF PERSONAL CRIME: AN EMPIRICAL FOUNDATION FOR A THEORY OF PERSONAL VICTIMIZATION, BY MICHAEL J. HINDELANG, MICHAEL R. GOTTFREDSON, AND JAMES GAROFALO, CAMBRIDGE, MASSACHUSETTS, BALLINGER PUBLISHING CO., 1978.

FIGURE 1
A LIFESTYLE/EXPOSURE MODEL OF PERSONAL VICTIMIZATION

The other source of constraints identified in Figure 1 is the social structure. The structural constraints originating from this source can be defined as limitations on behavioral options that result from the particular arrangements existing within various institutional orders, such as the economic, familial, educational, and legal orders. For example, economic factors impose stringent limitations on the range of choices that individuals have with respect to area of residence, nature of leisure activities, mode of transporation and access to educational opportunities.

As pointed out earlier, and as illustrated in Figure 1, members of society adapt to role expectations and structural constraints. Such adaptations occur on both the individual and group levels. Each person learns skills and attitudes that allow him or her to operate with some individuality within the constraints imposed by role expectations and social structure. Among the skills and attitudes that an individual acquires in adapting to role expectations and structural constraints, of particular interest in connection with personal victimization are attitudes and beliefs about crime, including fear of crime. Once learned, these attitudes and beliefs are often incorporated into the routine activities of the individual, frequently as limitations on behavior.

Role expectations and structural constraints have similar effects for people with the same demographic characteristics. Thus, shared adaptations also emerge and can even be incorporated as norms among subgroups of society. Individuals adapt to structural constraints and role expectations in ways that result in regularities in behavorial patterns. What is important for our purposes is that these include such routine activities as working outside of the home, going to school, or keeping house, as well as typical leisure time pursuits. These daily routines constitute lifestyle as we use the term here. Specifically, lifestyle refers to the characteristic ways in which individuals allocate their time to vocational activities and leisure.

Variations in lifestyle are related differentially to probabilities of being in particular places at particular times and coming into contact with persons who have particular characteristics; because criminal victimization is not randomly distributed across time and space and because offenders are not representative of the general population--but rather there are high-risk times, places, and people--this implies that lifestyle differences are associated with differences in exposure to situations that have a high victimization risk.

In Victims of Personal Crime, we were able to derive a series of propositions relating variations in lifestyle to the probability of exposure to crime. These propositions are compatible with the

characteristics of criminal incidents as known from both official and unofficial data.

A theoretical model quite compatible with the lifestyle model has been described by Cohen and Felson (1979; see also Cohen, Felson and Land, 1979) to explain rates of what are referred to as "direct-contact predatory violations." Cohen and colleagues rely on the concept of "routine activity"--by which they mean "any recurrent and prevalent activities which provide for basic population and individual needs...routine activities would include formalized work, as well as the provision of standard food, shelter, sexual outlet, leisure, social interaction, learning, and childrearing" (Cohen and Felson, 1979:593). They argue that routine activity patterns can influence crime rates

> ...by affecting the convergence in space and time of the three minimal elements of direct-contact predatory violations: (1) motivated offenders, (2) suitable targets, and (3) the absence of capable guardians against a violation (Cohen and Felson, 1979:589).

The probability of victimization is thus taken to be a function of the convergence of likely offenders and suitable targets in the absence of capable guardians, and this convergence is seen to be influenced by routine activities.

Cohen and Felson argue that shifts in routine activity patterns over time have produced changes in the property crime rates. Taking a measure of the dispersion of activities away from the home as an indicator of routine activity, their predictions about crime rate changes were consistent with the data about homicide, rape, assault, robbery, and burglary in a time-series study of UCR data from 1947-1974 (see also Cohen et al., 1979).

The concept of lifestyle, or routine activities, is thus seen as one mechanism by which social structural arrangements (or changes in them over time) may lead to variations in crime rates via changes in the amount and kind of exposure people or objects have. In the Cohen and Felson study, dispersion of activities away from family and household were seen to increase the amount of exposure to crime and, as a consequence, to increase the amount of crime. Thus, it is argued that probabilistic exposure can be predicted on the basis of routine activities which themselves are determined by the social structure and by role expectations. Research such as that accomplished by Cohen and his colleagues (1979, 1980), that operationalizes components of routine activities and tests these predictions against the crime data is critically important in the development of theory about the etiology of criminal victimization.

Some Impediments to Predictive Efficiency

There are, however, several major deficiencies in existing data and theory that impede progress in the area of the prediction of probabilistic exposure. For example, extant research has been forced to rely on crude indicators for both of the important theoretical concepts, lifestyle and exposure. At the individual level, lifestyle differences, by which we mean differences in the way people spend their time, where they go, and with whom they associate, have been assumed to be reflected in major demographic characteristics such as age, sex, race, income, and "major activity" (Hindelang, et al., 1978; Steinmetz, 1979; Cohen and Cantor, 1980; Cohen and Felson, 1979). Certainly considerable variation within these categories exists; it would be preferable to have direct measures, of the kinds typically used in time-budgeting studies (Chapin, 1974; DeGrazia, 1961), of how and where and with whom people spend their time (see National Academy of Sciences, 1976). Such data need to be collected in conjunction with measures of victimization experiences so that variability in the routine activities of individuals may be related to variability in their victimization experiences. A good deal more specificity is also needed with respect to incident indicators. These relate to the situational characteristics of criminal incidents; precisely where are these events most likely to occur, what type of activity was taking place immediately prior to the victimization, who else was there and what were they doing, and so forth. Such indicators are, theoretically at least, capable of being incorporated into the survey method. (Although retrospective surveys may not be the most profitable course to pursue; the "daily diary" approach may have much to commend it). Two impediments to their inclusion may require some attention however. First, the depth and complexity of these needed measures may conflict, to some extent, with surveys designed to measure the extent of victimization in the population, due to resource limitations. Special smaller-scale studies, perhaps selected to include disproportionate numbers of persons likely to report victimization experiences may thus be indicated. Second, some privacy issues may become involved as persons are asked to respond to inquiries about their lives in such detail. But provided such inquiries are framed with sensitivity and mechanisms are built to ensure confidentiality of response, respect for privacy need not only be accomplished at the sacrifice of quality research.

I raise these potential impediments because they pertain especially to the area most critically in need of indicator refinement in victimization surveys - the extent to which the victim's behavior in situational contexts enhances his or her exposure to violence. That is, given the probabilistic exposure of high violence-risk coordinates (i.e., exposure to places, times and people where the

likelihood of violence is increased) do some people, by virtue of their actions or words place themselves in even greater risk of violence? This, of course, is, in part, what Wolfgang (1958) has referred to as victim precipitation and what is embodied in Toch's (1969) typology of violent activity.

The situational data now available from victimization surveys are inadequate to assess this aspect of exposure. We do know that victim's reports of the use of self-protection measures is associated with a greater probability that the event resulted in injury to the victim and that the victim who reports using physical force is more than twice as likely also to be injured in a personal victimization (Hindelang et al., 1978:45). We also know that some persons (males and younger persons) are more likely than others to report using such self-protection measures. We do not know, however, whether the violence preceded or followed such resistance. What are needed are studies that emphasize detailed and systematic tracking of the intricate and undoubtedly complex series of moves and countermoves (both words and deeds) between the victim and the offender as the event unfolds. And, it would be profitable if such research relied on the "own story" of both parties to the event.

The absence of refined and direct measures of lifestyle and exposure impedes significant and unequivocal tests of the model and future theoretical development. For example, with a few exceptions, available research has dealt only with cross-sectional data. Many important derivations from the lifestyle idea relate, however, to rate changes for both individuals and social groups over time. But the indicators we now have do not permit specific and unambiguous predictions in this regard. At the individual level, for example, two common indicators of lifestyle are age and marital status. The young and the unattached are thought to have routine activity patterns quite distinct from older married persons; they go out of the home more often, particularly at night, are likely to go places at times that put them in proximity with other young, unattached persons, and so forth. But how are these indicators predictive of victimization probabilities over the life-cycle? Does marriage override youth with respect to lifestyle? Does a change in marital status, from married to single, significantly alter the lifestyle of persons over 30?

At the aggregate level, in time-series analyses, similar indicator problems are apparent. For example, do increases in the unemployment rate reduce the property crime rate because it reduces the number of attractive targets away from the home, or, do increases in the unemployment rate increase the property crime rate because it places more persons in proximity to high risk persons at high risk times? Although the first hypothesis appears more tenable (see Cohen,

Felson, and Land, 1979) the second could be derived from the existing model - direct measures of lifestyle would clearly begin to solve such problems.

Theoretical Directions

The principal assertion of the lifestyle model is that probabilistic exposure and its antecedents have a central role in the etiology of criminal victimization. The concept of opportunity for crime is not best regarded as only anecodotal or "common sense" but should be regarded as "scientific sense" and of explanatory power (see Gould, 1969). But the views put forth so far should rightly be regarded only as guides to theoretical action in an area of considerable conceptual complexity. There exist other guides for such action, and consequently there may be merit in considering what these alternative guides imply about one another and about the prospects for future research on the etiology of victimization. Two concepts present in the work in this area seem to me to be particularly important - typologies of victim proneness and motivation.

The contrast between the typological approach and the lifestyle approach seems dramatic. On the one hand, and in the extreme, the typological approach, which has a distinguished history in victim studies (von Hentig, 1948), sees distinct causal mechanisms operating for different victimization events. Some may be caused by simple carelessness, others by active provocation; some may be the result of physical impairments, and yet others the result of greed. Although the events that happen to persons in these circumstances may share a common label - "victimization" -they share virtually nothing else. The determinants of these events are diverse, ranging as they do from biological factors (e.g., infirmity due to age) to psychological factors (e.g., predisposed to perceive a wide variety of stimuli as requiring a violent response) to physical factors (apparent wealth), to situational factors (e.g., the "john" who is robbed by the prostitute because he is unlikely to report the offense to the police). And victims vary on a continuum of culpability themselves, as Mendelsohn (1956) noted. Productive theory, it could well be argued, must acknowledge these many causative factors, perhaps through the development of distinctive explanatory mechanisms. Research agendas faithful to this view would seek factors that distinguish victims from one another, rather than only searching for what they have in common.

The lifestyle-exposure model may seem to stand in contrast; comfortable with the idea of predicting the common label, unconcerned with the homogenization of so obviously diverse phenomena, in search of a single theory capable of generating multiple causes. And so it is. For according to the lifestyle-exposure model, each of these plausible causative factors is plausible precisely because its pre-

sence enhances and its absence decreases exposure to crime. They relate to the probability that the person will come into contact with a motivated offender and will be seen to be a suitable target for the offense. Certainly some such factors are more easily derived from the lifestyle model than others (the examples of the "john" and the "provocative" victim seem to me to be capable of such derivation). This is not to argue that a variety of causes should not be studied - indeed, the lifestyle-exposure model both permits and encourages multiple-factor research. But the point is that, in this very early stage of theorizing about criminal victimization, there is no logical need to abandon a search for a theory capable of accounting for distinct causes nor to argue the futility of a common criterion. As a consequence, there is incentive, with respect to future research agendas, to continue to search for what victims may have in common--and how they differ from those who are not victimized.

The second theme that I believe merits some consideration in relation to directions for research on the etiology of victimization concerns the role of offender motivation. To a large extent, the absence of mechanisms that produce variation in the motivation to offend places exposure models in sharp contrast to most theories of criminality. Motivation to offend is assumed and the task is seen to be the explication of situations in which such motivation is least likely to be restrained. Cohen and Felson (1979:589) make this point most directly in the initial statement of their routine activity approach:

> Unlike many criminological inquiries, we do not examine why individuals or groups are inclined criminally, but rather we take criminal inclination as given and examine the manner in which the spatio-temporal organization of social activities helps people to translate their criminal inclinations into action.

Contrary to most criminological research, their model strives to predict crime-rate changes on the basis of social-structural relationships without positing changes in the structural factors motivating people to engage in crime. Changes in the possibility to offend, rather than in the desire or impetus to offend, are seen as being of primary importance. The general consistency between their data and their predictions implies that such a posture may be worthy of future attention, particularly given the repeated difficulty motivational theories have experienced in making similiarly accurate predictions.

There is, of course, a body of theoretical literature about criminality that is also silent with respect to variations in the motivation to offend - control theory (Hirschi, 1969; Kornhauser,

1979). These theories assert that offending occurs when social control mechanisms are weak or absent. As a final note, I think there may be some advantage, in these speculations about the prospects for future work in this area, to note how these two theoretical positions-control theory and lifestyle - might complement one another heuristically (see also Hindelang, 1976:154).

One of the central building blocks of the lifestyle concept has been the discovery that the factors most closely associated with victimization are factors which have also been found to be associated with offending. That is, by and large, combinations of characteristics predictive of offending are also predictive of victimization. These findings at least suggest that similar mechanisms may operate to produce both; in control theory terms, the processes that reduce the restraints to offend are similar to the processes, in lifestyle terms, that affect the probability that persons will be in places at times and around people where the risk of victimization is high.

Much of the data about victimization are compatible with the idea that common social control mechanisms affect routine activity patterns in ways relevant to the production of higher risks of victimization. The lower rates of personal victimization for those who have greater family ties, who are employed, and who are in school, for example, are certainly suggestive of this.

The argument is not that these processes produce offenders and victims who are one and the same (although often this is the case); rather it is that they produce the likely pools of victims and the likely pools of offenders and the circumstances that they are likely to come into contact with one another.

In this sense then, efforts to increase our understanding of offenders and of victims may very well turn out to be mutually beneficial efforts. If we understand one we may understand the other. Thus our task may be only half as onerous as it appears to be.

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ASSESSING BEHAVIOR

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Studies of the role of individual and household behavior in shaping the victimization process touch a number of fundamental issues. Precautionary behavior is the mechanism by which we often account for the victimization rates of various groups. For example, upon observing the high levels of fear and low rates of victimization of the elderly, we speculate that the linkage between the two is their great caution about exposing themselves to risk. The high victimization rates of divorced, separated, or unmarried women, in contrast to those for married women, we may lay to differences in their daily routines, social activity, and companions. The higher reported levels of caution we observe among recent victims of crime also may account in part for the unexpectedly small number of multiple victims revealed in victimization surveys. If incidents were independent of one another, we would get more than we currently do (Sparks, et al., 1977); but if an experience with crime changes one's subsequent behavior, then they are not independent.

Research on victimization-related behavior also may speak to the advice given victims. Studies of the correlates of attempted rather than successful crimes, crimes not leading to injury of the victim, and the like, might test the folk wisdom about "what to do" which is now being passed along in popular circles. Some grants by the NIMH Rape Center were aimed at establishing an empirical basis for such tips. This research focuses upon the victimization process itself, searching for crucial points or contingencies at which victim behavior makes a difference in the outcome of the offense.

Other behaviors, those which if taken prior to offenses may prevent their occurrence or mitigate their consequences, are of great interest to service providers. Grant-supported groups often are in the business of encouraging crime prevention efforts, including target hardening, property marking, and citizen surveillance activities. Media campaigns aim at encouraging habitual caution, reminding people to lock their car doors, hold on to their purses, and carry traveler's checks.

All of these interests could be advanced by more research into the origins and consequences of crime-related behavior. In the case of victimization research, relatively little is known of the relationship between individual or household behavior and predation. The National Crime Survey does not gather any useful data concerning the activities of those questioned, nor any indicators of their exposure

to risk or crime-prevention efforts. The work of Hindelang and others explaining victimization is based on inferences about behavior from the demographic profiles of individuals. For a number of reasons, surveys that have measured victimization well have not gathered much data on behavior, and those which are rich in behavioral indices are not suitable for investigating victimization.

There has been more systematic use of behavior indices in evaluation research. A number of evaluations have focused upon specific activities, including property marking and target-hardening. These generally have examined the adoption of these practices, and have assumed the benign consequences of the behavior of interest. Other efforts have involved observation (Lavrakas, Normoyle and Wagener, 1978) and self-report (Fowler, McCalla and Mangione, 1979) studies of behaviors like the use of public space by area residents, on the presumption that these play an important role in community crime prevention.

As useful as these studeis have been, a review of many (largely survey-based) criminal justice studies employing behavioral indices suggests that research in this direction should take a different course. In brief, most studies of behavior are underconceptualized, employ inadequate measures, specify overly simplistic analytic models, and are of uncertain aggregate (if not individual) significance. In this paper we deal in turn with each of these issues.

We argue first that research on behavior must focus upon general behavioral dimensions rather than upon specific instances of activity. We need to be able to generalize across specific behaviors and across behavior contexts. This would serve to increase the generality of our findings, help us deal with the fact that some behaviors may be substitutable for one another, and reduce error in measurement.

We then review some methodological obstacles to the accurate assessment of behavior. These include problems in retrospective recall, knowledge of household activities, and frequency estimation. Attention should always be given to assessing the reliability and validity of reports of behavior.

Once useful data has been collected, we need to apply them to realistic models of human processes. These inevitably will include over-time reciprocal relationships between experience and behavior, and other recursive processes. Because victimization data is gathered retrospectively, while most assessments of behavior and cognitions reflect current states, these models demand over-time panel data on individuals. Further, it is likely that many kinds of behavior spread by diffusion rather than by independent invention, and models of diffusion processes focus upon time-dependent behavior.

In the final section we deal briefly with our knowledge of the consequences of these behaviors. Research is needed on the individual, neighborhood, and community impact of crime-prevention efforts. Even activities which successfully forestall victimization may only displace it to other households or neighborhoods.

Conceptualizing Behavior

One of the most vexing shortcomings of many research reports that are circulating is their item-by-item focus upon behavior. Rather than conceiving of crime-related behavior in broad conceptual categories, and thinking of reports concerning specific actions or activities as manifestations of those more general domains, most researchers stick doggedly to cataloging particular instances of behavior. There is a heavy price to be paid for keeping the level of abstraction of this research so low. What is required is more extensive conceptual elaboration of the dimensions of behavior, followed by methodological work aimed at developing reliable and valid indicators of those dimensions.

The most often-cited conceptual elaboration of anti-crime behavior is that of Furstenberg (1972). He discusses two dimensions of behavior, avoidance and mobilization. Avoidance behaviors include things that people do to limit their personal exposure to risk, such as staying at home, keeping their doors locked, and ignoring strangers on the street. Mobilization tactics, on the other hand, all are aimed at property protection and all involve the purchase of some piece of hardware, such as an alarm, window bars, floodlights, etc.

While oft-cited, we can find little evidence supporting the utility of these distinctions. Furstenberg was reanalyzing survey data collected by the Harris organization, and was forced to make do with what he had. However, he reported no evidence of the scalability of the items in his Baltimore data, and our best attempts to replicate them and to test their generality using different indicators that matched his conceptual dimensions indicate that they do not hold up empirically (cf. Lavrakas and Lewis, 1980).

Another important set of conceptual categories for analyzing behaviors can be gleaned from the Westinghouse CPTED project (Tien, et. al., 1976). They suggest three theoretically important behavioral dimensions: target-hardening (locking doors, fences), surveillance (watching out, patrolling), and territoriality (proprietary) efforts.

Unlike Furstenberg, the Westinghouse effort did not produce any data to document the utility of these distinctions, A multiple-replication study using factor analysis on several data sets found some evidence of a "having locks/using locks" dimension in Portland

and Kansas City, but no empirical target-hardening dimension of any greater generality (Lavrakas and Lewis, 1980). Skogan and Maxfield (1980) employ a four-item scale that they argue is a surveillance measure, which has suitable Guttman properties. Oscar Newman (Newman and Franck, 1979) developed a survey-based measure of territoriality for their study of crime in public housing. It included items measuring the extent to which residents were willing to intervene in vandalism and assault cases and what they would do if they noticed suspicious persons. Their five-item scale combining these items had a reliability (Cronbach's Alpha) of .71.

In addition to these efforts there are several loosely-defined typologies in use which could more aptly be considered organizational rather than analytic distinctions. Conklin (1975), for example, talks at length about activities he classifies as "individual" and "collective" in nature. The former are things that people can do alone, while the latter are things they do in concert. This is largely a literary device, of course, for scarcely any behavior fits uniquely into either of those categories. Schneider and Schneider (1977) talk about "public-minded" as opposed to "private-minded" activities in the context of preventing residential crime. The former are efforts that benefit the participating household, while the latter have some positive collective payoffs. This distinction concerns the consequences of behavior rather than aspects of the efforts themselves, and one type of activity could well have both results. They do utilize behavior indices which combine reports of several activities, including an index of "protective neighboring" and "private protection." They do not assess the scalability of the individual items, however.

In our work we have found it useful to think about several distinct behavioral dimensions. One general category encompasses "risk avoidance" activities and the other "risk management" tactics. Risk avoidance behaviors serve to limit exposure to risk, which is high when one is physically positioned in a high-risk environ. Risk management activities include things that people do to reduce their chances of being victimized when they are exposed to risk. Some risk avoidance and risk management behaviors are aimed at preventing personal victimization, and others at forestalling residential crime. In two of the four subcategories formed by these distinctions we can employ multi-item measures based on aggregating measures of conceptually similar behaviors which evidence acceptable levels of scalability.

With regard to delineating behavioral dimensions, we take the positivist stance that the issue is one of utility: concepts are either useful or they are not. Useful concepts are those that have empirical referents, whose referents are not simply operationally

defined, and which have construct validity. Put another way, we can measure them, distinct multiple indicators of the concepts hang together, and they correlate with other interesting things. There should be no requirement that a typology of behaviors be exhaustive. Any inventory of specific behaviors relevant to crime (if anyone was to be so foolish as to attempt one) would be hopelessly large and dominated by definitional distinctions. A useful typology might not even be exclusive with respect to which categories specific actions fall into. For example, Furstenberg (1972) included "door locking" among his avoidance behaviors, but it is likely that it also would fit consistently with other measures of property protective actions. Alternative tactics may have the same consequences, and one tactic may have multiple consequences.

As this may suggest, one interesting aspect of a useful behavioral domain is that specific actions within it may be substitut able. A home with a very loud alarm and another with a very loud dog have arrived at the same end via different routes. People who routinely drive by automobile rather than walk even to places near their home may instead recruit someone to walk with them when their car is broken down. This is one reason why check-list studies of the performance or not of specific behaviors often are not very interesting. The end of any specific behavior (which in the policy sector is the end of the research) may have been arrived at in some other way.

Another great problem in assessing behavior, and one which also recommends raising the level of abstraction at which we deal with it, is the highly contingent basis of many individual actions. Survey questions about buying special door locks may misconstrue the responses of people who had not done so because some previous resident of their dwelling unit (or even their landlord) had already installed them. When ever researchers give respondents check-lists of protective behaviors that they might take when out alone after dark, inevitably a substantial number of respondents will insist that they "never go out," and will (sensibly) refuse to pick from among the proffered categories. Responses to questions about walking places in one's neighborhood may be affected by differences in the availability of places to walk to; certainly residents of New York and Los Angeles might not respond in the expected fashion to such questions. In each case, responses to questions about the performance or not of a specific activity make sense only under certain circumstances. There are contingencies in which almost every form of behavior may be impossible or which make it irrelevant to the problem at hand. In practical terms, this often demands complex survey filter questions to establish the need or relevance of a behavior. This in turn excludes many respondents from consideration when we examine any specific behavior, making the analysis very cumbersome. Raising the level of abstraction of a behavior dimension may suggest

alternate conditions or behaviors which are "functional equivalents," and which can be used to give multiple-based behavior scores to each individual or household.

One great limitation on the potential generality of behavioral dimensions is the problem of context. Most of the crimes we deal with take place somewhere--they are bounded in space, if not (in the case of conditions like vandalism) by time. Most crime-related behaviors take place in a specific place as well. We avoid dangerous corners, install locks, take care to lock our car door, etc., in particular places. The "interactionalist" view of behavior is that:

> Since behavior never takes place in a vacuum, but always occurs in a situational context, it is meaningless to talk about characteristics of an individual's behavior without specifying the situation in which the behavior occurs. To understand and predict behavior it is, accordingly, just as necessary to have a classification system for situations as for individuals.....(Esptein, 1979: 1102).

Only at a very high level of generality will behavioral dimensions overlap contexts.

Most research on patterns of crime-related behavior has solved this problem by confining its scope of inquiry to households and neighborhoods. Thus we ask people about surveillance activities on their block face (watching out the windows, asking neighbors to watch their house), how they act when they are walking in their neighborhood (are there places they avoid, do they walk with someone else), and what they have done to protect their home. With the exception of the school environment, there has been relatively little research on how people protect their person and property in any other context. This is a curious lapse, and it surely leads us to greatly underestimate the impact of crime on people's lives. The question of how people deal with crime in the workplace, downtown, or on recreational excursions, remains almost completely uninvestigated. There is reason to believe that some combination of these "other" places plays a more significant role in people's crime experiences than does their neighborhood, as victimization surveys indicate that the vast majority of personal crime does not take place at or near home, but "elsewhere." The limited variance in context that has been studied to date greatly limits our understanding of the relationship between victimization and individual behavior.

The difficulty is that the specification of situational contexts will greatly complicate the measurement of behavior. The elaboration of behavior measures by situational contexts will mutiply the number

of observations we must make. However, if we wish to accurately characterize individuals, then we must observe their behavior over a variety of situations. This will average out variance due to unique situational factors, revealing stable underlying behavioral tendencies. Epstein (1979: 1102) notes:

> ....(S)ingle items of behavior have a high component of error of measurement, thereby limiting the possibility of replication, and a high component of situational uniqueness, thereby limiting the possibility of generalization.

The costs of continuing to focus research on property marking, using public transit, attending a meeting, or any other specific activity are significant. There are at least three major benefits of raising the level of abstraction of our research and focusing only upon measures reflecting general behavioral domains. First, raising the level of abstraction at which we think about issues would increase the generality of our findings. Many of these behaviors individually are trivial. They are unlikely in themselves to have significant consequences and they are appropriate only for certain people and under a restricted set of conditions. Casting our thinking at a more general level would enable us to subsume many actions and activities appropriate under a variety of circumstances under the sume rubric. We could examine their collective distribution in the general population, rather than their contingent frequency among only homeowners, people who do not have an automobile, or who are physically able to get about. And, as we noted above, we could deal more effectively with the substituability issue. If we kept our attention fixed at the level of general domains, households with loud alarms and loud dogs would have similar scores on our measures.

A second advantage to this way of thinking about behaviors is that individual measures of actions or activities will always be swamped by measurement error. By accumulating reports of behaviors through a variety of channels and summing across instances of activity to arrive at global scores we will be able to more accurately characterize individuals or households. Research on this issue is very persuasive. One-item survey measures of things seem to be about fifty percent error variance, and only after about three observations or so can we begin to arrive at minimally stable readings of behavior, using either self-reports or the ratings of judges (Esptein, 1979). As Epstein (1979: 1097) argues:

> Not only has the direct measurement of objective behavior failed to provide evidence of stability, but self-report scales in attitude and personality inventories, as well as ratings of behavioral samples by judges (although themselves stable), have produced low correlations with

> objective behavior. Does this indicate, as some have suggested, that stability of behavior lies primarily in the eye of the beholder? The issue can be resolved by recognizing that most single items of behavior have a high component of error measurement and a narrow range of generality....(I)t is normally not possible to predict single instances of behavior, but it is possible to predict behavior averaged over a and/or occasions.

The collection of mutliple indicators of the standing of individuals on more abstract behavioral domains would enable us to assess the amount of error in our measure, and even to correct them for this bias.

The third advantage of this approach is that it would work better and advance the cause of science. One reason to distrust the depressing report of evaluators that "nothing works" is that few studies (at least in the criminal justice area) have enjoyed adequate measures (Skogan, 1979). It is useful to think of an evaluation as a contest between the effects of a program and random noise; programs can appear to be "winners" only when they can outshout the opposition. As a result of poor measurement we probably are rejecting the hypothsized effects of programs more often than we should.

We advance the cause of science when we move our sights from the trivial to the consequential, and from the particular to the general. As Isaac Newton observed, "truth ever lies in simplicity, and not in multiplicity and the confusion of things." There can be no science of door locking, or property marking. Rather, the scientific study of behavior can only proceed as it strips away the complex contingencies surrounding individual actions and isolates their common core.

What at the phenotypic level is contingent, discrete, and couched in everyday language must at the genotypic level be general, continuous, and abstracted from concrete circumstances. Only then can we have theory rather than description.

Measuring Behavior Accurately

Once we have identified theoretically relevant behavioral dimensions, our next task is to develop measures which are reliable and valid indicators of the standing of individuals or households on those factors. Surprisingly, generating these measures is often more difficult than assessing seemingly elusive phenomena like attitudes or perceptions. Perhaps because they are more than internal states, but are somehow "concrete" and inter-subjectively knowable, we seem to have higher standards with respect to the measurement of behavior.

The same psychologists who employ many-item tests to score human traits are often disturbed that single-item indicators of behavior do not evidence similar reliability (Epstein, 1979).

People do things about crime which are either repetitive or need to be performed only once. Repetitive behaviors are things we "do all the time"; operationally, this may mean something like "at least once a week." Actions in this category would include going outside after dark, talking with neighbors about crime, attending meetings, and avoiding strangers on the street. Repetitive behaviors are best measured via frequency counts of their incidence over some fixed period of time. One-time activities are things that need be done only once; in this group would fall installing alarms, purchasing insurance, and moving to the suburbs. These are all measured as dichotomies, or "yes-no" indicators.

Among the many methodological obstacles to accurately assessing these behaviors, four will concern us here:

a. the measurement of many behaviors involves retrospective recall--a memory search over some period in the past;

b. many of these behaviors may be of low salience to those involved;

c. even the one-time performance of many of these behaviors may not be known to respondents;

d. some measures are based on estimates of the freguency with which behaviors are performed; this can be a very difficult recall task.

The burden which a difficult memory-search task can impose upon respondents is quite well known. One dimension of this task is the length of time in the past a respondent is expected to review in responding to a question. Research on victimization, health-related behavior, and household repairs all suggest that even quite salient events cannot be recalled accurately from the distant past. In certain areas of health research and in studies of media consumption the reference period often employed in survey studies is "yesterday"--people are not expected to be able to accurately recall their behavior for more than one day in the past. If the object of inquiry is something that is quite common--like tooth-brushing or television viewing-- the accuracy possible with such a brief recall period shapes the research design. However, if the behavior of interest is relatively infrequent, then studies employing brief recall periods will have to involve very large samples in order to gather useful data on

the activity. Among our examples, attending a crime prevention meeting would fall into this category.

The low salience of many of the events of interest to criminal justice researchers presents other recall problems. Repetitive, habituated risk management tactics like avoiding strangers on the street, driving rather than walking after dark, and the like, are particularly difficult to characterize accurately. One response to the salience problem is to shorten the length of the recall period. For example, many researchers ask about visiting neighbors' homes or the number of times the respondent went out after dark only "in the past week." Low-salience events also require more memory aids: repeated questions, reworded questions, examples, etc.

It is also possible that a respondent may not be sufficiently knowledgeable to provide reliable information about a particular behavior. This is clearly relevant for measures taken to protect households. Not everyone in a household is necessarily knowledgeable about insurance protection, particular target-hardening efforts, or even if any one attended a crime prevention meeting. Surveys that select randomly-chosen adults from within a household for interviewing often then use them as proxy respondents for others (like the head) who may know more about the subject in question. Our experience in both the NCS and CPS is that the use of proxy respondents underestimates the frequency of activities of others.

Finally, some measures of crime-related behaviors call for estimates of the frequency with which they are performed. This can be an extremely difficult recall task. One problem may be that a behavior is <u>too</u> frequent, that within a reasonable reference period at least some people perform a behavior "too many times to count." Research indicates that the most accurate recall is of events with frequencies in the 0,1,2,3 range, and that above about "8 times" frequency estimates become rounded-off, categorical estimates. One solution to this problem is to shorten the length of the reference period. Another is to ask higher-frequency respondents to make <u>rate</u> estimates--the number of times they did it "each week" or some similar base period. Those rates, when multiplied by the number of base periods in the recall period, produce more accurate counts of high frequency events than do straight-forward magnitude estimates (Peterson, 1979). Inevitably, however, any distribution of frequency estimates will be "lumpy" at values of 5,10, etc. due to the "rounding-off" problem.

An important issue in any measurement exercise is the reliability and validity of the resulting data. The multiple indicators approach suggested here would provide the basis for routinely calculating the internal consistency of measures, which is one form of reliability

estimate. Repeated measures, through call-backs or re-observations, would yield test-retest reliability estimates. Validity checks of measures of many behaviors could be generated by matching survey and observational evidence or carrying out record checks. For example, Schneider (1975) had her interviewers ask if each sample household displayed a property marking program sticker; these could have been matched to interviewer reports of whether or not such a sticker was visible. Lavrakas and Jason (1979) explored the validity of survey reports of participation in several Community Crime Prevention programs by interviewing persons known by the sponsoring agency to have participated. In this case, the origin of the sample of respondents and the true purpose of the study was "blind" to the interviewers. Finally, in Holland, van Dijk and Nijenhuis (1979) asked survey respondents about the precautions they took when answering a knock at their door after dark, and later re-visited a sample of those homes at night and observed what people there actually did. Studies like these play an important role in establishing the credibility of self-reports of behavior.

Modeling Behavior

Once we have identified key dimensions of behavior and gathered data suitable for representing them, we next confront the problem of how to analyze that data. There are at least two issues which will confront us at that point. First, it is clear that behavior is sometimes an independent variable and sometimes a dependent variable in our theories, and that any realistic modeling of human processes will have to consider the reciprocal relationship between individual behavior and other attitudes and events of interest. Because the data on some of these factors usually reflects current states while others must be gathered retrospectively, cross-sectional data on behaviors will rarely be useful. Second, analyses of the distribution or consequences of some crime-related behaviors will have to deal with Galton's Problem--that of the nonindependence of observations. While most analyses of behavior have implicitly accepted an "invention" approach to their occurrence, it is more likely that they spread by diffusion. These analytic problems create further data needs, which must be planned for in advance, and call for new modes of analysis.

In our verbal formulations of the problem, most of us probably think of crime, individual cognitions, and behavior as an interrelated system. This view may be useful both at the individual and community level. People adapt their behavior to their reading of the risks in their immediate environment. They may or may not walk their dog along after dark, sit on their front stoop, or visit their neighborhood tavern, depending in part on what they fear might happen to them as a result of these exposures to risk. They reformulate

those assessments on the basis of direct and vicarious experience. When they hear of things happening to neighbors, or to people like themselves, they become more wary. Over time they develop daily routines which bring their perceived risks into some reasonable rnage. They may always drive in their car rather than walk, or they may only go shopping during daylight hours. Far from being incapacitated by fear, they are able to proceed with their lives.*

At the neighborhood level, stable places are those where these relationships between crime, cognitions, and behavior have iterated to a stable solution--they are systems characterized by negative feedback. There, when incidents do occur which are "out of range," individual (and collective) action to reduce victimization affect the subsequent crime rate, and residents read the results of their caution in renewed community security. Unstable places are positive feedback systems. Exogenous shocks to the system (like rapid population change or shifts in economic function) may upset such accommodations. In this view, sudden shifts in the crime environment (following Lemert, 1951) are more threatening than its day-to-day level. Residents of such areas may react by withdrawing reciprocity from the community. They may stay at home, shun community facilities, and refrain from "getting involved." As the sense of territoriality and the natural surveillance activity of area residents declines, this may escalate further levels of crime (Conklin, 1975), and further undermine the capacity of individuals and groups to deal effectively with the problem (Lewis, 1979).

Note that at either level of analysis, this view of the relationship between crime, cognition, and behavior posits sequences of reciprocal causation between the elements of the system across a temporal span. A cross-sectional analysis of data capturing only a snapshot of processes like those described above would serve to "average out" reciprocal causal forces of either a positive or negative nature, probably tending in the direction of identifying "no significant relationships" in what is in fact a dynamically interconnected system. There are statistical techniques which can ferret out reciprocal causal sequences from cross-section data, including Two-Stage Least Squares procedures. Although these have been in use in studies in international relations and comparative politics for some time, only recently have they begun to influence the analysis of survey data.

A better vehicle for monitoring such processes would be over-time panel data. Then, cross-lagged panel and turnover-table analysis could be used to better reveal its causal structure. This type of

*There is considerable empirical support for this model; see Skogan and Maxfield, 1980.

analysis also would reflect the nature of the data. One difficulty with research to date on these problems is that adequate measures of cognitions (including assessments of risk and fear) and most behaviors (including exposure to risk and risk management) reflect current states: They indicate how often people went out last week, or what they think their chances of being victimized are now. Data on victimization, on the other hand, must necessarily be gathered retrospectively, for some (relatively length) period in the past. In most surveys data on victimization and related experiences is gathered for the previous year, or even longer. As a result, the data can only speak to the

$$\text{victimization} \longrightarrow \text{behavior}$$

linkage described in the models above. Thus we usually find that recent victims report being less exposed to risk than nonvictims, a finding that only makes sense when we assess it in a verbal model assuming reciprocal causation across other, unmeasured, points in time. A more realistic negative feedback model, like

$$\text{victimization} \underset{-}{\overset{+}{\longrightarrow}} \text{exposure}$$

requires data from at least two points in time. The primary implication of this view is that studies of behavior and their consequences must be panel studies.

This is, in our view, extremely important. All stable systems are characterized by negative feedback. No hypothetical relationship represented by a unidirectional causal arrow can adequately describe a relationship in a stable system. In stable systems all relationships somehow "work back" on themselves to dampen forces causing change. Unidirectional causal arrows posit explosive-growth relationships taking some positive exponential form, which in the long run are impossible to sustain. It is often easy to pass over this issue when we deal in the realm of attitudes and perceptions, but once we begin to model purposive behaviors that work to reshape people's environments, the reciprocal relationship between environment and behavior must somehow be brought into the analysis.

Finally, in our attempt to understand the distribution of crime-related behavior we will have to confront the issue of their potential noninterdependence. This issue first surfaced in 1889 at a meeting of the Royal Anthropological Institute. A paper was presented there examining the characteristics of human cultures, such as their use of money and adoption of particular institutions. While certain cultural forms could be related statistically to selected explanatory variables, Sir Francis Galton rose to point out that social or economic intercourse between societies played an important role in shaping their

internal arrangements as well. While the statistical analysis of such data assumed that the observations were independent, in fact there were linkages among them. While the theoretical model underlying that analysis assumed the appearance of a cultural trait was the result of invention, it was as likely to be the result of cultural diffusion (cf. Naroll, 1970).

In this case the difficulty is that most analyses of the behavior of mass publics tend to treat those behaviors as inventions. Individuals are treated as atomistic units. Presumably as some multidimensional surface describing a set of explanatory variables reaches a particular configuration they move from one state to another, and a behavior is born. There are several reasons to suspect that this is not an appropriate model. First, there are entrepreneurs at work (sometimes in the public sector and sometimes in the private) actively "marketing" many of those efforts. These include both alarm salesmen and not-for-profit businessmen providing services with the support of public funds. Second, many household protective measures, including the use of bars, fences, outside lights, and the like, are highly visible. People may well do things (mostly) because their neighbors do them, or at the very least will find it easier to act in the presence of a model. In either case, this should lead us to suspect that the adoption of certain behaviors proceeds at least in part by diffusion.

This effect will be intensified by the way in which most survey and observational studies of crime-related behaviors are conducted. Those studies generally focus on selected case-study neighborhoods or use samples from "target and control" neighborhoods. Surveys of larger populations, like the nation as a whole, in fact employ cluster samples that usually include 40 or more respondents from each sampled geographical area. This enhances the chances that behaviors we observe or ask about have spread by diffusion, for diffusion processes generally create clusters of "adopters" in close geographical proximity. Because many public-sector entrepreneural activities are centered in neighborhoods, their efforts encourage diffusion as well.

Viewing the adoption of certain behaviors as a diffusion process may explain why many of them are so difficult to predict. In our research the major correlates of virtually all household protective efforts reflect physical and social aspects of the neighborhood: home ownership, building size, etc. In particular, those efforts do not seem to be correlated to perceptions of risk, fear of crime, hearing about local victims, etc. That is, rather than "need" or "incentive," it is neighborhood-linked features that are correlated with the adoption of behaviors. The right kind of data might reveal that entrepreneural activity or early innovation is more likely to

occur in certain areas, and that diffusion processes then explain the further spread of the idea.

In contrast to the invention approach, a compelling model might treat a crime prevention behavior as an innovation which has been adopted. In this sense, property marking is like the adoption of hybrid seed corn in rural communities (Griliches, 1957). There are some elegant mathematical models which describe diffusion processes, focusing primarily on the shape of the cumulative distribution of adoptions over time (see Hamblin, Jacobsen and Miller, 1973). For a given community these would serve to evaluate the effectiveness of behavior-marketing strategies. Among individuals, the key to understanding the shape of the diffusion curve is the characteristics of early and late adopters. The former spark the dissemination process, while the latter determine the length of the tail of its distribution across time (Rodgers and Shoemaker, 1971).

As this suggests, a diffusion perspective on this issue would require some new theoretical perspectives and impose some new data needs on the study of crime prevention behavior. Innovation research focuses upon the connectedness of members of a community and the flow of information through those networks, rather than on the problems individuals think they face or their demographic characteristics. All of the data need to be pinned down firmly in time, for diffusion models explicitly concern themselves with process.

For policy researchers involved with an organization which attempts to market innovations in behavior, understanding crime-related activities as an adoption rather than as an invention process would be a conceptual shift of some significance. It would stimulate research designs which produce data closer to the options open to operating agencies.

Consequences of Behavior

Throughout this discussion we have talked as if crime-related actions by individuals and households can have significant consequences for their subsequent fate. Whether this is true or not is still open to debate, and it is not clear that the collective consequences of those actions would necessarily be positive even if their individual consequences were.

The relationship between behavior and outcome is an important research, evaluation, and policy issue. Rational-cognitive theories of human behavior assume that man's fate is malleable, and that by making choices and taking actions we can--within significant constraints-- reshape our condition. The research issues include identifying who has profited from efforts to reduce their risks and

the nature and magnitude of those constraints, which often are race and class-based. Evaluators would enjoy acquiring a kit-bag full of measures of certifiably consequential actions. They could then count their adoption as a "success" and use them as measures of "intermediate outcomes." Policy makers would like to know what discrete programs to promote, and some estimate of their costs and benefits. All of these parties should be concerned with an additional issue, that of the individual and collective consequences of actions. Put simply, the question is, "do the things that people can do about crime reduce crime, or do they displace it somewhere else?"

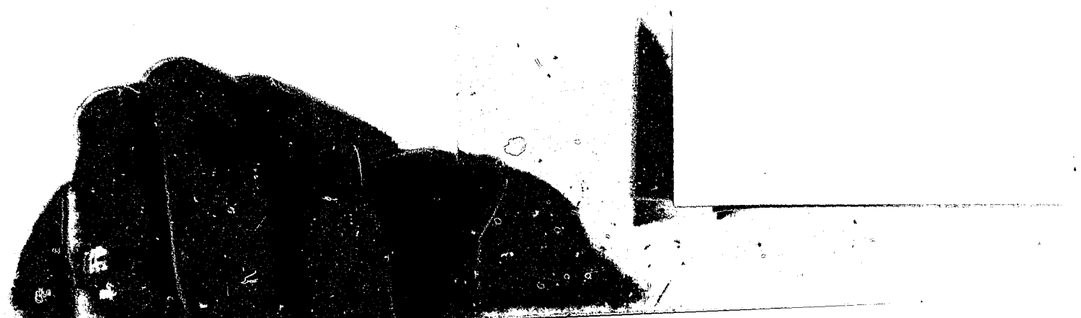
There are smatterings of evidence everywhere of the efficacy of individual precautionary efforts. For example, both women and the elderly are very vulnerable physically to predatory crime, but victimization surveys indicate that they enjoy low rates of victimization from most types of offenses. One common explanation for this apparent paradox is that both of these groups evidence extremely low levels of exposure to risk. For a variety of reasons they lead more circumspect lives than their counterparts, and they always score at the high end of measures of purposive crime-avoidance and risk management (cf. Antunes, et al., forthcoming). Their chances of being victimized when they are exposed to risk may be very high, but they do not place themselves in that position very often.

There are obviously some limitations on the efficacy of such tactics for reducing victimization, however. In part this involves the existence of constraints on behavior. For a variety of reasons people often are forced to do things that they consider risky; if they live alone, work the night shift, or do not own a car they may be exposed to risks they would like to avoid on a regular basis. Also, it is not yet clear how much of the "variance" in victimization we can explain using data gathered from the point of view of the victim. A crime occurs when a victim and offender are brought together in space and time under appropriate circumstances. There doubtless is a random element in that encounter from both their perspectives, and in the vast majority of appropriate spaces, places, and circumstances, no incident occurs. So people who are very cautious may not be robbed, but most people are not robbed regardless of their level of caution, and in the most "dangerous places" nothing happens most of the time.

When we are considering a crime-prevention activity from a policy perspective, the "consequences" issue becomes more complicated. We may know, for example, that target-hardening a dwelling unit may reduce its chances of being burgled by x percent, and that by displaying a sticker warning potential intruders that this is a property-marking household may have an additional y effect. The difficulty from a policy perspective is that such efforts may displace rather than prevent crime. From the point of view of individuals or households such

activities may certainly be worthwhile, but should governments encourage activities which at some cost merely shift the burden of crime on some other household?

For this reason it may be useful to think of anti-crime activities as having "crime reduction" consequences or "victimization prevention" consequences. Research designs should deal with both the individual and collective benefits of adopting various tactics. This doubtless will lead evaluators back into criminology, for we will be able to understand displacement issues only through more serious studies of offenders and their activity patterns. For example, it may be that opportunistic offenses characteristic of small bands of idle youths can be deterred rather simply by target hardening, and that if they do not occur at a pregnant moment they will not happen at all.



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HOMOGENEOUS VICTIM-OFFENDER POPULATIONS: A REVIEW AND SOME RESEARCH IMPLICATIONS

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In a complex society where there are few of the traditional similarities that once guided social action, it is difficult to conceive of a single homogeneous population. There is generally too much variation in the social attributes of a group. It seems more appropriate to define a given population in relation to another on a range of variables that measure the extent of similarity. This is typically done in social science where we test for the significance of between-group variation while controlling for within-group characteristics. But the problem is complicated when referring to populations that represent legal labels in which the definition of one is dependent on the perception of the other.

The idea that victims and offenders are part of the same homogeneous population runs contrary to much of the public's popular impression of criminals as distinct from their innocent victims. In the rhetoric of contemporary crime control, the criminal is often portrayed as the enemy with the victim in need of "defensible space" or "target hardening" (see Newman, 1973).

Although there is some support for the heterogeneity of victim and offender populations, it is generally confined to incidents motivated by theft. The object is not to commit some physical harm, but to obtain something of value by minimizing the risk of detection or arrest. If victims and offenders are similar, it is in terms of their demographic characteristics that increase the availability of one population to the other. For example, juveniles in their daily activities are more likely to interact with others in their age group who happen also to be in the crime-prone committing years. The higher probability of being a victim during adolescence is thus explained by the age of the offender population and the increased chance of their interaction.

For crimes of assault, the distinction between victim and offender populations is less clear. Both populations seem to be related to one another not only in their demographic characteristics, but also in terms of certain shared responses to perceived situations of physical or psychological threat. The prior social interaction suggests certain normative constraints where a violent outcome is dependent in part on the victim's reaction (Wolfgang, 1958).

A key question then to attempts to explain personal victimization as a consequence of the victim's exposure to an offender is the extent to which violence reflects a life style that leads victims to alternate as offenders in the same social environment (Hindelang, Gottfredson and Garofolo, 1978). If victims and offenders share certain understandings as well as misunderstandings that support the use of physical force, then both populations are not distinct but rotate in a web of sub-cultural relationships.

Although the thesis of a violent subculture (Wolfgang and Ferracuti, 1967) is grounded in official recorded incidents that indicate the victim-offender interaction, other measures are needed to determine the homogeneity of both populations. A few studies have already provided some data on the homogeneity of both populations. In a London sample, Genn and Dodd (1977) surveyed for both victim and offender experiences. Their self-report data indicate that for incidents ranging from simple to aggravated assault there is a significant association. In another survey, Savitz, Lolli and Rosen (1977) similarly contrasted surveyed victimization but with juvenile arrest status. Again, victims of assault were found to be significantly related to official delinquent arrest status in contrast to no association for victims of theft.

Though these studies support the hypothesized relationship for assault, they are not specific to the serious violence that subcultural theory intends to address. Violence in its less trivial form is a relatively rare event. When acts of aggression are weighted with verbal threats and the experiences of adolescence, they become more common, as indicated by surveys of delinquency and victimization. If a subculture is argued, then it is necessary to confine an analysis of victim-offender populations to those events that are not likely to exist in the dominant culture. The critical concern is to measure the extent to which victims are also offenders involved in serious assault independent of the minor offenses that may have been experienced.

The Criminal Background of Victims Surveyed in the Follow-up to "Delinquency in a Birth Cohort"[1]

The extent to which victims are also offenders involved in serious assault I have examined in a study of self-reported victimization in the follow-up survey to Delinquency in a Birth Cohort by Wolfgang, Figlio and Sellin (1972). Of the 975 subjects randomly sampled from the male cohort population, 567 were located and interviewed at age 26 concerning their social and criminal background experiences.

Surveyed victimizations were measured by asking the respondent to recall his victim experiences during three time periods: before age 12, between 12 and 18, and after age 18. Based on methodological studies

of surveying victims, we can expect a great deal of response error for simple assaults, given the relatively large reference period (Hindelang, 1976). For incidents in which the respondent was shot or stabbed, there should be less response error because they are injuries that are likely to stand out in recalling one's life experiences.

In contrast to victims of minor assault and property damage, a clear pattern emerged for those cohort members who were shot or stabbed. First, they were most often nonwhite, high-school dropouts, unemployed and single at the time of the survey. Second, they were more frequently involved in official and self-reported criminal activity. Victims of serious assault had the highest probability of having a friend arrested, belonging to a gang, using a weapon, committing a serious assault and having an official arrest.

Highly significant is the relationship between having been shot or stabbed and having committed a serious assault, as measured by offenses causing the victim's hospitalization, death or rape. In Figure 1[2] the relationship is illustrated in the plotted odds of committing a serious assault by victim status and race. Although 46 percent of nonwhites report committing a serious assault compared to 32 percent of whites, part of the variation is explained by victimization. The relationship is significant for both whites and nonwhites: 68 percent of the cohort victims reported committing a serious assault compared to 27 percent of the nonvictims.

When other significant indicators of offender status are included in a logit analysis, the victim experience proves to be the best predictor.[3] In accounting for the observed variation in offender status, victimization, gang membership and weapon use provided the best model for explaining the observed relationship between offender status and race.

Although there is homogeneity in the hypothesized subcultural relationship between victim and offender, it can further be related to age specific periods. The learning of crime may not be as direct as social learning theorists suggest (see Burgess and Akers, 1966), and may include negative as well as positive associations. To test this aspect of the similarity between victims and offenders, Figure 2 plots the odds of committing an adult offense by juvenile victim status. For whites and nonwhites, the plotted relationship supports the hypothesis of learning by means of negative associations. The percentage committing a serious assault of adults is significantly higher for juvenile victims: 64 percent compared to 22 percent for non-victims.

Controlling for gang membership, Figure 3 illustrates again the significance of being a juvenile victim and adult offender status. For gang members the relationship is almost perfect in that 94 percent of juvenile victims who are gang members report committing a serious assault. For non-gang members who are victims, however, the probability of committing a serious assault is higher than if not a victim and a gang member: 54 percent compared to 42 percent are offenders.

With self-reported offenses it is possible that the observed relationship might partially be a function of response error, in that respondents who tend to answer in a particular direction will do so independently of its true occurrence. To control for this potential effect, official recorded arrests were examined. The relationship between victim and offender status, however, is specific only to the adult years. This may be because incidents are more accurately recalled in the nearest reference period and because of the greater seriousness of the offenses committed in the adult years.

The relationship between victim and official offender status is plotted in Figure 4 with the additive effects of race and victim status illustrated. Although nonwhites have three times the probability of an adult arrest, .48 compared to .16, the chance of a white victim having an arrest is higher than a nonwhite who was not a victim. In Figure 5 the relationship is again plotted for gang members and non-members with the observed odds of offender status in the expected direction.

For cohort members with an official adult arrest, the victim experience is significant in explaining the seriousness of their criminal careers. The relationship, however, is specific to only nonwhite cohort members. In a general linear model 36 percent of the variance in the seriousness of a criminal career is explained by victimization, gang membership and the seriousness of juvenile arrests.

Conclusion

The results presented, along with those of other studies that have examined the victim-offender interaction, indicate support for the homogeneity of victim-offender populations involved in serious assaultive conduct. The evidence should not be taken as confirmation for the existence of a subculture but as support for the need to look at other variables besides opportunity or exposure to explain personal victimization. In current formulations of subcultural theory, there is little attempt to account for the direction of the victim experience as it may relate to offender status. Further theoretical development is needed on the effect of being a victim on an individual's sense of justice and propensity to obey the law.

More data are also needed to provide a more complete test of the significance of the victim experience. Homogeneity between populations should be examined in a model that allows for feedback between both victim and offender experiences. The self-report technique seems to be a suitable method for tapping both sets of experiences, although it has generally been used to measure one or the other.

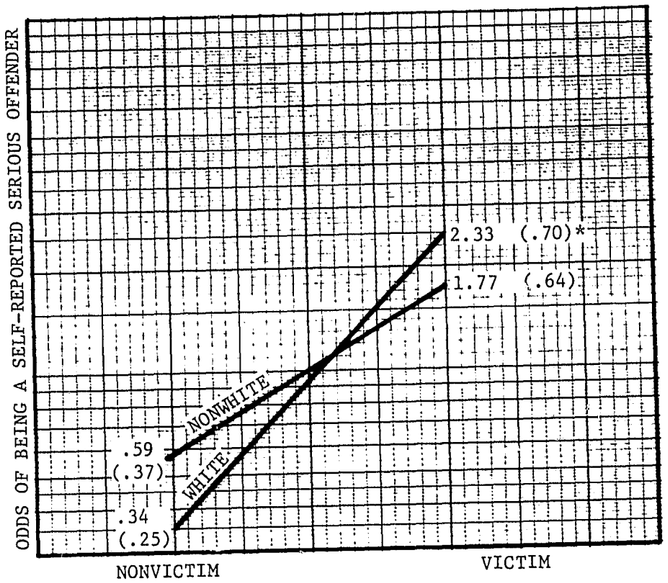
There are some policy implications that should benefit by the continued study of victim and offender relationships. First, there is a need to know the risk of personal attack by strangers to assess accurately the seriousness of offending behavior (Skogan, 1980). The public's concern with the problem of crime may be better dealt with by providing data that indicate the probability of becoming a victim if not involved in delinquent or criminal activities.

Second, the public may be willing to tolerate different levels of offending behavior, depending on the victim-offender relationship. Crime confined to persons acquainted with one another in the course of their social interaction may be perceived as qualitatively different from and less serious than the stranger-to-stranger violence that arouses increased fear and concern. Unless data on the risks of personal victimization are assessed in terms of the victim's relationship to the offender, the public's perceptions of the seriousness of crime may be subject to interests that are less objectively oriented.

In terms of the hypothesized continuum of homogeneity, it is important to consider the variables that may lead to an overlap in victim and offender populations. Despite the fact that elderly persons have a lower probability of victimization by violence, they are more susceptible to personal attack in blighted urban areas and age-integrated public housing. To reduce homogeneity with respect to residential proximity to an offending population has the obvious policy implication of reducing the elderly's chance of victimization.

Similarly, an increase in interracial violence may be attributed to a rise in residential integration. Variation by sex in victim and offender populations may be a function of females becoming less restricted in their traditional social roles. These are just a few research questions that need to be addressed over time and across different populations.

The cost of further analysis is minimal because much of the data has already been collected under the National Crime Panel project. The National Crime Panel victimization survey data should be examined for changes in the demographic characteristics of victims in relation to the perceived race, sex and age measures of the offender. This should be done for the cities and the nation across the various surveyed time periods.



*NUMBERS IN PARENTHESES ARE THE PROBABILITIES. THE ODDS ASSOCIATED WITH THE DEPENDENT VARIABLES ARE CONVERTED TO THEIR PROBABILITIES WITH THE FOLLOWING FORMULA:

PROB = ODDS/(1 + ODDS)

FIGURE 1
ODDS OF BEING A SELF-REPORTED SERIOUS OFFENDER BY RACE AND VICTIMIZATION

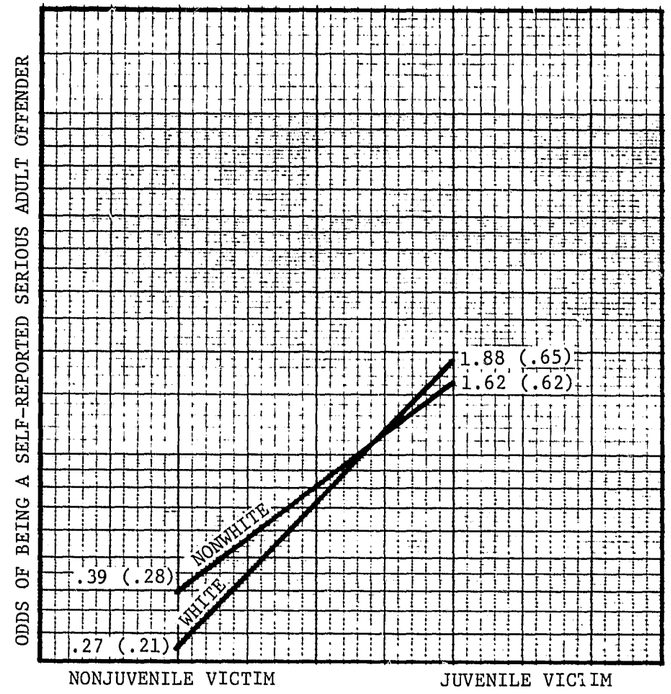


FIGURE 2
ODDS OF BEING A SELF-REPORTED SERIOUS ADULT OFFENDER BY AGE, RACE, AND VICTIMIZATION

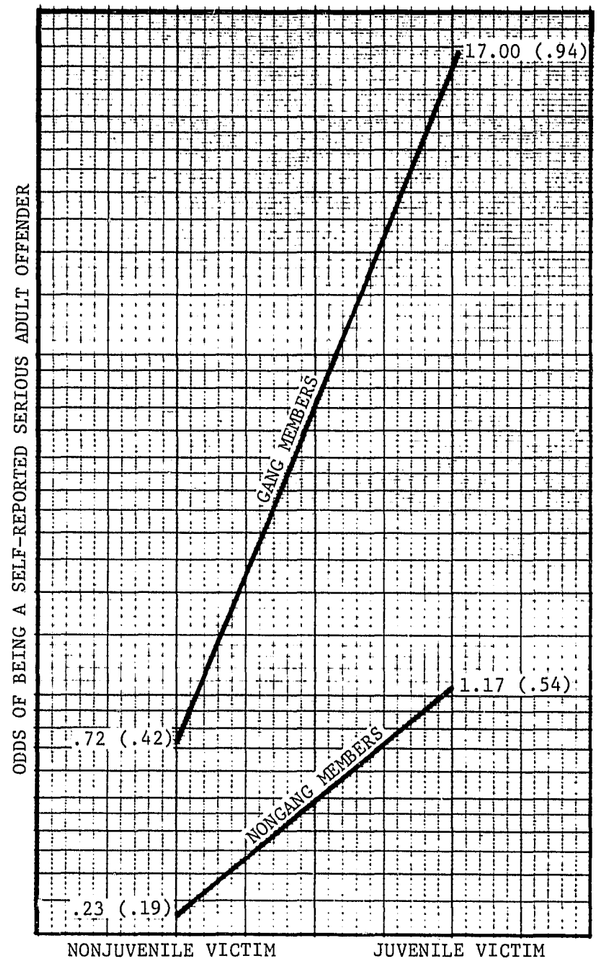


FIGURE 3
ODDS OF BEING A SELF-REPORTED SERIOUS ADULT OFFENDER BY AGE, GANG MEMBERSHIP, AND VICTIMIZATION

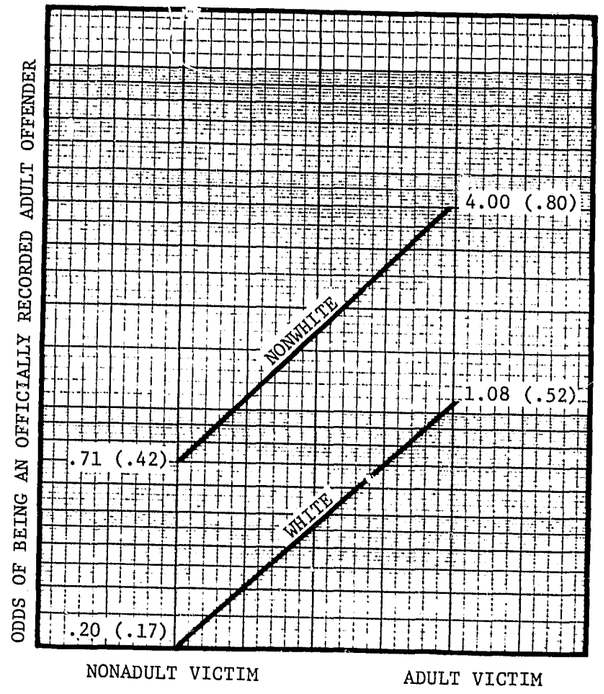


FIGURE 4
ODDS OF BEING AN OFFICIALLY RECORDED ADULT OFFENDER BY AGE, RACE, AND VICTIMIZATION

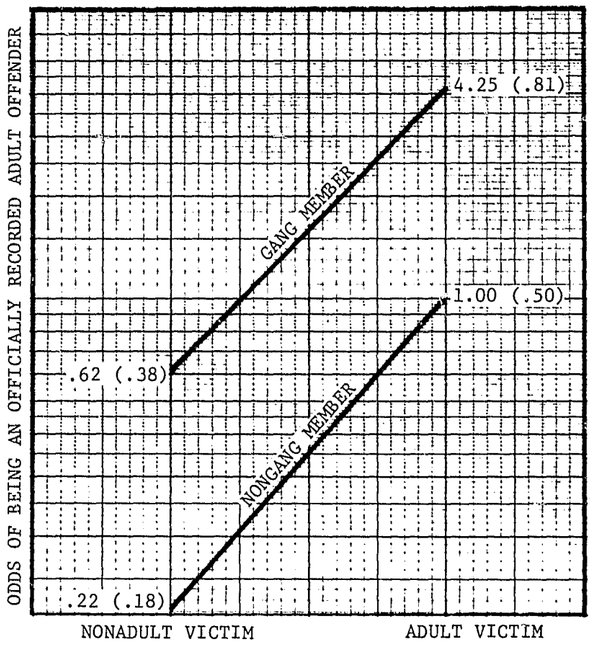


FIGURE 5
ODDS OF BEING AN OFFICIALLY RECORDED ADULT OFFENDER BY AGE, GANG MEMBERSHIP, AND VICTIMIZATION

NOTES

[1]The results reported are based on my dissertation, "Victims in a subculture of crime: An analysis of the social and criminal backgrounds of surveyed victims in the birth cohort follow-up."

[2]In each of the figures the odds of being an offender are calculated by dividing the sample cell size for nonoffenders into that value for offenders with the given attribute of interest. The odds are normalized by plotting the computed values on semilogarithmic paper so that negative and positive values are comparable to one another.

[3]The logit procedure used is the one suggested by Goodman (1972) for dichotomous variables.

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VICTIM-OFFENDER DYNAMICS IN VIOLENT CRIME

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It has long been an axiom of criminology that in most societies crime prevention is primarily the responsibility of the citizenry and not the police. The study of victim offender dynamics is research of events which result either from a failure to prevent crime or a willingness to precipitate or participate in a criminal event. When prevention has failed, the decision to defend yourself and the method of defense become most important determinants of both the decision to invoke the criminal justice process and the criminal processing system decisions to react to the crime.

Thus the study of most crime prevention and most victim reactions to a criminal act must be made from the perspective of the victim and his surroundings rather than from that of the police or courts.

The major responsibility for crime prevention has always been with the community and citizen, not with the criminal processing system. If the study of victims of crime is going to have a major effect on rates of crime, it may come through the enhancement of the ability of citizens to prevent crime and react to criminal events in a way which minimizes the resultant damage and injury.

The Criminal Event

The dynamic of victim-offender interaction is an important key to the understanding of the nature of violent crime, both for the outcome of the crime itself and for victim, police, and court decisions to catch and punish offenders. Violent crime can be thought of as a social event involving at least two actors and their interaction. In any violent crime, there must be a target, an offender and their interaction. This triad can be called the crime event. It is an event like all social events which is surrounded by a history and an environment and which in its own turn alters both victim and offender and future events.

The criminal event may be thought of as one instance surrounded by a micro-environment of social relationships, physical structures and weapons of potential use, and by the macro-environment of target and offender. Each macro-environment consists of those characteristics of neighborhood and community, concepts of social relationship, ideas of violence and danger, and other things which affect each criminal event, but are not directly a part of it. The two actors, victim and offender, interact with and are affected by these structures, but

they remain individuals. Much of their behavior may be determined by biological or psychological makeup.

The outcome of the criminal event for its victim is often determined by interaction between victim and offender which in turn affects the victim's decision to invoke the criminal justice system and the criminal justice system's decisions to process and prosecute the crime event. The criminal event and its dynamic is the spark to light the entire criminal processing system. Yet both the criminal event and the criminal justice system are embeded within the society and within their own macro and micro environments. Figure 1 illustrates these relationships. All elements of the society share a common heritage and history. Included in American history and important for the study of violent crime are our tradition of frontier violence, racial segregation, arming of the populace, and many other factors. The history of society is at least as important to the criminal justice system as to the crime event.

The macro-environment of a criminal event is constructed from that of the victim and offender. Each of these is built from physical, economic, and social structures. Some communities are structured with a wide availability of targets for criminal attack. There may be many tourists in one neighborhood or many homes which are unoccupied during the day in another. Other neighborhoods may have fewer obvious targets. Some individuals have wide opportunities for legitimate behavior, others have few. The macro-environment of the criminal event occurs at the intersection of those of the victim and offender.

The macro environment of the criminal justice system overlaps that of the crime environment; however, the macro environment of criminal processing can often be defined by structural capabilities and capacities -- how many cases and what types can the criminal justice system process.

The micro environment of criminal behavior is the immediate network of events and structures surrounding the crime. It is the relationship of victim and offender, relative, known or stranger. It is the location of a crime, at home, in a bar, or on the street. It is the weapons available for use. The micro environment of the criminal processing system is the characteristics of particular police, prosecutors and courts at the time of contact with the crime or criminal. As can be seen in Figure 1, the micro and macro environment of crime and the criminal justice system overlap. Still, they are not congruent. Much of the environment of crime is largely irrelevant to the criminal justice system and the criminal processing environment has little effect on criminal behavior.

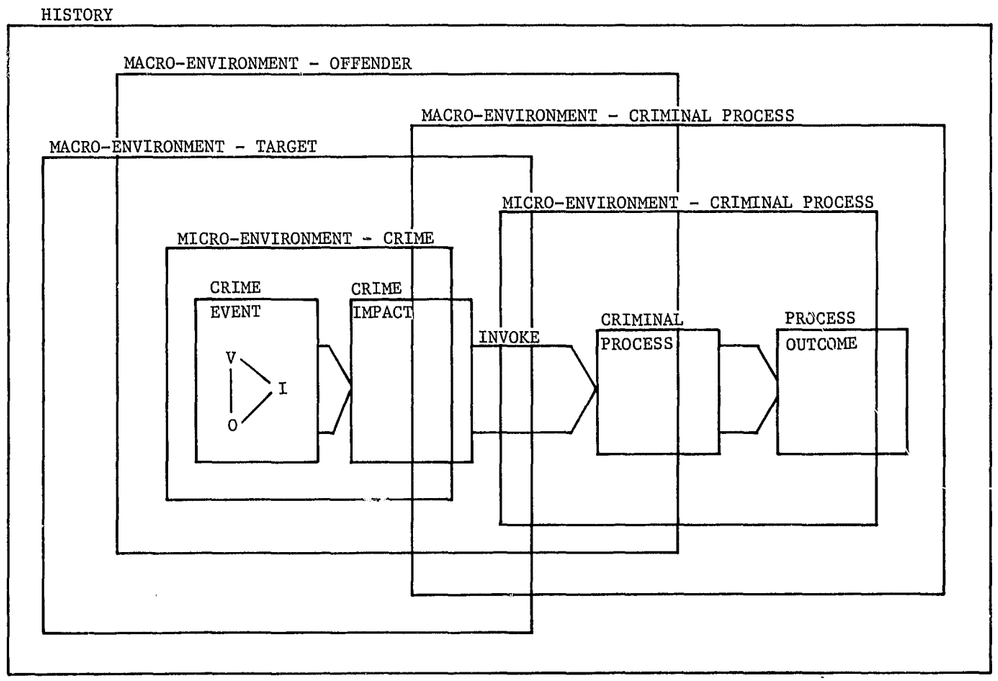


FIGURE 1
THE CRIMINAL EVENT

These environments overlap but that of the victim, the offender, and the criminal event is largely independent of that of the police and courts. If this model is correct, research which concentrates on criminal justice system variables while analyzing victimization is largely irrelevant as are victimization studies of the criminal justice system. The perspective of the victim and offender is lost in the environment of the police. While the victim may react to his treatment by the police, he has little knowledge of police work or its constraints. History and environment surround crime and the criminal processing system. However, in violent crime victim-offender interaction is the initiator of criminal processing both by the victim and the police. Within its environment the criminal event is the initiator of outcomes and actions. Thus, the interaction of victim and offender largely determine whether the crime is a rape or an attempt and also determine the level of injury in the crime.

To a large extent the outcome of a violent crime determines whether or not the police will be notified and whether or not they will act. It is generally believed that the police are far more likely to be notified of a homicide than an assault. They are more likely to be notified of a completed robbery than an attempt. Notification is the bridge between the victim, the offender and the criminal justice system and between their environments. It is in notification that the environments most clearly overlap. Factors which influence the decision to inform the police of a crime, degree of injury of outcome, are also factors which affect the police decision to investigate. The police are far more likely to be notified of the death of a spouse than of the beating of the spouse and the police are far more likely to carry on an investigation.

Police and court action are clearly influenced by the crime event. Most studies of police and court decision making have found the nature of the crime to be an important and valid factor in decision making. Yet the criminal justice process is part of a different environment than the criminal event and decisions of the crime processing system are often wholly independent of the enviornment of the crime.

The concept of the crime event and its surrounding environment and history will form a basis of this paper and of the future research proposed here. Thus the crime event must be related both to its outcome and to its environment. At the same time the environment of the criminal act must be kept largely separate from that of crime processing.

Given the importance of the crime event for the victim of violent crime, it is not surprising that much of the early research in victimology was concerned with victim-offender interaction. They study of victims of crime began with the study of victim-offender dynamics. Once the study of victims went beyond descriptions of the spatial and

demographic characteristics of incidents, the first topics to be considered were victim-offender relationships and the victim as a generator of his own victimization.

Early research in victimology often concentrated on the degree to which the victim could be considered responsible for his own victimization. Mendelsohn developed a typology of six types of victims varying from those who were more guilty than the offender and those who were solely guilty to those who were guiltless (Schafer). Hentig also developed a typology of victims and discussed victim-offender interaction as a duet. Wolfgang and his students carried on this tradition to studies of various crimes (homicide, rape, robbery).

Victim precipitation may be thought of as a failure of the social control mechanism of crime prevention. Wolfgang and others have argued that much victim precipitated homicide occurs in a subculture of violence in which norms of interpersonal behavior are different from those of the society as a whole. Similarly, Amir, in classifying victim precipitation of rape, judged behavior which was different from that normally expected of women to be precipitating. On a broader level, it has been argued that the high rates of violence in America, when compared to other developed nations, results from a culture of violence. A subculture of violence exists within this culture of violence.

Early studies of victims, to the extent they were based on data collection, utilized records of the criminal justice system. Thus victim precipitated homicides or rapes were those perceived as victim precipitated by the police, courts, medical examiner or coroner. This examination may be affected by the environmental perspective of the agency and only partially take into account that of the victim.

These studies were very much affected by the data source. Before a crime becomes recorded in an official record, that crime must pass through several filters. If these filters randomly select crime for further processing, it is of no great importance to the study of victim-offender dynamics whether or not the interaction is studied from the victim's perspective in a survey or the police perspective through official records. However, the crimes which are reported to the police are not a random sample of all crimes which occur. First, the victim or observer must decide that the benefits of reporting or the moral imperative are sufficiently great to require police notification. Then the police must decide that they have the resources and interest to respond to the crime.

As will be shown both victim and police decisions are affected by victim-offender interaction. Crimes which are successful are more

likely to be reported to the police than attempts. In the next section it will be shown that the criminal justice system records a far different set of victimizations than do surveys of victims and that the outcome of crime as reported in victim surveys is far different than that reported in official records. Criminal justice system records are highly appropriate to study the affect of victim characteristics or victim-offender dynamics on police prosecution, and court decisions. They are not appropriate to study the background of criminal events, the relationship of victim and offender, or the dynamic of victim-offender interaction. To study these, knowledge of the victim's perspective and environment is most appropriate. These can only be collected through a victim survey, but this must be a far different survey from those currently gathered.

Does Resistance Affect the Outcome of Violent Crime?

In my 1977 book, Violent Crime, Environment, Interaction, and Death, I analyzed the character of robberies, aggravated assaults, and homicides in Chicago based upon records of the Chicago Police Department. I found that death or injury, success or failure, in violent crime was to some extent determined by the nature of the victim offender dynamic at the time of the crime's occurrance.

In police records, I found that victim-offender dynamics in robbery were very significantly affected by the presence of a gun. In robberies with a gun threat, force was much less likely to be used than in robberies with out a gun. The use of force was related to resistance by the victim, the successful theft of property, and injury to the victim. Figure 2 illustrates these relationships. I concluded from this analysis that victim resistance only slightly reduced the probability that the robbery would be successfully completed and greatly increased the probability that the victim would be injured. Analyzing police records, I concluded that victim resistance during a robbery made very little sense.

At the time I was writing this, I worried that these relationships might be affected by victim and police decisions to begin the criminal justice process. However, I lacked the conceptual tools and data to test these concerns. I decided that the effect of these decisions prior to official recording would have to be very large in order to affect my conclusions. When the city tapes of the National Victim Survey became available, I was able to consider these decisions to invoke the criminal justice process.

There are many possible samples of victims of crime. In Chicago, both victim surveys and police records are available, and given the cooperation of the police department, they can to some extent be compared. In my initial analysis, the relationship among weapons use,

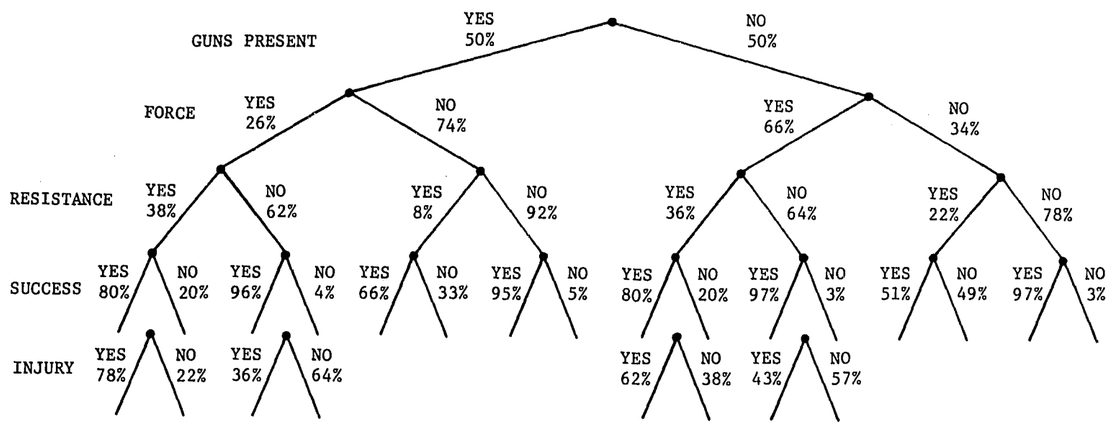


FIGURE 2
PROBABILITY TREE OF VICTIM-OFFENDER INTERACTION AND OUTCOME IN ROBBERY

victim-offender dynamics, and crime outcome was analyzed for non-commercial robberies occurring in the city of Chicago to the residents of Chicago.

In this analysis it was found that victim resistance, completion of the robbery, and police notification were strongly related in the victimization survey. Table One illustrates these relationships.

TABLE 1

PERCENTAGE OF ROBBERIES IN WHICH THE VICTIM CLAIMS TO HAVE NOTIFIED THE POLICE, CHICAGO 1974

	COMPLETION	ATTEMPT
RESISTANCE	66%	31%
	(11716)	(17144)
NO RESISTANCE	57%	25%
	(30057)	(3624)

It can be seen that attempted crimes are less than half as likely to result in police notification than completed crimes and that robberies in which the victim resisted were slightly less likely to result in notification than crimes with no resistance, independent of the affect of completion. Of the estimated 28,869 robberies in which the victim resisted 40.6% were completed. Of the estimated 33,861 robberies with no resistance 90.1% were completed. Thus, the victimization survey sample of robbery victims was far more likely to resist than were victims in the police sample and their resistance had a higher probability of success than in robberies recorded by the police.

The relationship between completion and notification is supported by Hindelang and Gottfredson for the twenty-six city sample. In these surveys 62% of the completed robberies and 33% of attempts were reported to the police (Page 69). An analysis of the 1976 National Crime Survey results in much the same conclusions as the Chicago analysis (Table Two). Resistance, completion, and police notification are clearly interrelated. The robberies which are reported to the police are more likely to be successful and the victim is less likely to have resisted than in those robberies which ended without police notification.

TABLE 2

PERCENTAGE OF ROBBERIES IN WHICH THE VICTIM CLAIMS TO HAVE NOTIFIED THE POLICE, NATIONAL CRIME SURVEY 1976

	COMPLETION	ATTEMPT
RESISTANCE	60%	32%
	(285)	(92)
NO RESISTANCE	61%	36%
	(343)	(36)

Anyone looking at police records to determine the effect of victim resistance will come to a very different conclusion than for a victim survey. Most of the cases of successful resistance will have been eliminated from the data. Since cases of unsuccessful resistance are more likely to be recorded by the police, the researcher may erroneously conclude that resistance is likely to be unsuccessful.

This is illustrated in Table Three. If one had sampled police recorded robberies, it would appear that victim resistance does very little good. Seventy-eight percent of registered robberies are completed, despite the resistance, and resistance only improves the victim's chances of not having the robbery completed by 20 percentage points. On the other hand, if one had used the victim survey as a sample, resistance would appear to be a more rational thing to do. The majority of resisted robberies are not completed. The percentage difference is 48.

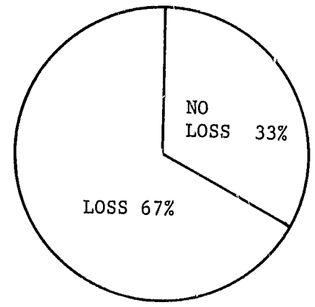
Figure 3 illustrates the effect of the choice of sample on the overall percentage of completed robberies. If we take a victim survey sample of incidents, we find that only 67% were completed. If we take a police record sample, 94% were completed. With each step in the decision process, the circle of cases becomes not only smaller but systematically different in its characteristics.

Table Four summarizes the effect of the choice of sample on conclusions drawn about the effect of victim resistance on the completion of the robbery controlling for gun use. Using police recorded robberies, it would be concluded that the victim resistance is irrational. However, using victimization survey data, it would be concluded that resistance makes a great difference.

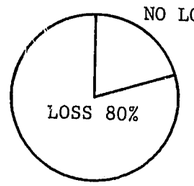
TABLE THREE

Effect of Sample on Conclusions:
Robbery Completions and Victim Resistance in Three Samples

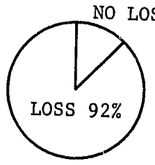
	Victim Resistance	Total Cases	Per Cent Completed	Percentage Points Difference
Incident Sample	Yes	28,860	41%	
	No	33,681	89%	48
Notified Sample	Yes	13,000	59%	
	No	17,918	95%	36
Founded Sample	Yes	3,872	78%	
	No	13,464	98%	20



TOTAL INCIDENTS = 63,046 CASES



POLICE NOTIFIED = 31,523 CASES



INITIALLY REPORTED AS ROBBERIES = 23,012 CASES

FOUNDED IN POLICE RECORDS = 18,179 CASES

FIGURE 3
EFFECT OF SAMPLE ON PERCENT COMPLETIONS

TABLE FOUR

Effect of Sample on Conclusions:
Gun Use, Victim Resistance and Robbery Completion

Percent of Robberies Completed

INCIDENT SAMPLE

		Resistance? Yes	Resistance? No	Percentage Points Difference
Gun Use	Yes	49% (4748)[a]	91% (15365)	42
	No	39% (24113)	87% (18317)	48

NOTIFIED SAMPLE

		Resistance? Yes	Resistance? No	Percentage Points Difference
Gun Use	Yes	58% (2587)	95% (8604)	37
	No	59% (10272)	94% (9341)	35

FOUNDED SAMPLE

		Resistance? Yes	Resistance? No	Percentage Points Difference
Gun Use	Yes	81% (1175)	98% (7269)	17
	No	75% (2696)	97% (6001)	22

[a]Numbers in parentheses are total N's.

Thus an incident sample, taken from a victim survey, describes the victim resisting when no gun is present, and then probably being successful in that resistance. Police recorded incidents, on the other hand, give an image of the victim being less rational in resisting and more powerless to affect the situation. Survey data describes a citizen who is more active in self-protection.

The fact that characteristics of victim survey samples are systematically different from the characteristics of police data does not imply that one is more accurate than the other. It only implies that the two are measuring different things (Hindelang). Police recorded robberies may be an appropriate data base for studying police activities or as a base for the analysis of prosecutor and court decisions. However, at least in Chicago, official records of robbery give a far different view of the dynamic of victim-offender interaction than do victim surveys. Given the major differences in conclusion reached when samples of victimization survey robberies and robberies based upon police records are compared, what conclusions can be made about the relationship between the crime event and its outcome?

In both the victim survey and police data resistance is likely to result in a reduction of the probability of completion of the crime. On the other hand, in both the victim survey and police records, those who resist are more likely to be injured than those who do not. However, as Gottfredson and Hindelang point out, there is a a crucial chicken and egg question. Does resistance result from injury or lead to injury. While sequencing of interactions was not possible with either sample, in both samples, physical resistance, the offender's use of force, and injury coincide. Evasive resistance was less likely to coincide with force and injury.

Another paradoxical finding of this research and others (Conklin, Hindelang and Gottfredson; McDonald) is that the offender's use of a gun threat reduced the probability that the victim will be injured. Our police data, however, indicate that it increases the probability that the robbery victim will die. In the few reported robberies in which a gun was used rather than threatened 2.6% resulted in death as compared to .6% of those robberies in which another form of force was used.

Thus my research and that of others indicates that the dynamics of the robbery event definitely affect both its outcome, the victim's decision to notify the police and early police decisions. However, the strength of these effects is far different from the victim's perspective than from that of the criminal processing system.

VICTIM OFFENDER DYNAMICS IN HOMICIDE

It is generally believed that official records of homicide are far more complete than those for other violent crimes. Thus problems of sampling are far less relevant than for robbery. However, while an incident is likely to be recorded, the victim is dead. The nature of the victim-offender dynamic in that incident must often be reconstructed by the police. In this reconstruction, the victim's perspective is often represented by the offender or may remain unrepresented.

In my analysis of Chicago police records, I found it appropriate to consider homicide to generally be the outcome of another violent criminal event: either a robbery or an aggravated assault. A few homicides could not be classified as the result of any other crime. However, when homicides were divided into those that resulted from arguments or fights and those that resulted from robberies, few differences could be found between characteristics of the homicides and those of the preceedent crimes either demographically or in the relationship of victim and offender.

I named these two forms of homicide instrumental and impulsive. Others have called them felony and non-felony related. In either case, these two homicide forms are very different not only as they occur but also in their legal implications (Zimring, et. al.).

If the identity of the offender in a felony related or instrumental homicide in known, the offender rarely is an aquaintance of the victim. The offender is usually much younger than the victim and the probability that there is either victim participation or precipitation of the crimes is small. Little can be said about resistance in instrumental homicide. Many cases are not cleared and in many the nature of the victim's reaction can not be known.

Impulsive homicides are far more likely to occur among relatives or acquaintances of nearly the same age. There is a higher probability of victim participation or precipitation. Impulsive homicides are more likely than instrumental homicides to occur in the home -- hidden from public view.

The number of homicides increased very rapidly in most American cities in the late sixties and early seventies (Barnett). In many cities rates of homicide more than doubled. The increase continued through the mid 1970's and then stabilized. Although the motive for homicide varied greatly from city to city in early studies (Zahn), from Wolfgang's study of Philadelphia in the 1950's on, all studies of homicide have found that death resulting form an argument or fight was far more common than from a felony. Still, much of the

increase in homicides during the late sixties and early seventies resulted from an increase in felony related killings.

An analysis of homicides in Chicago during the period from 1965 through 1976 indicates that both felony and non-felony related homicides increased rapidly from 1965 to 1970. After 1970 assaultive homicides remained constant or declined while robbery related homicides, especially with a gun continued a linear increase through October 1974 and then rapidly declined.

However, a more complete comparison of the overall patern of homicide with its different component patterns indicates that all trends in homicide during the period 1965 through 1976 were accounted for by shifts in gun use rather than by shifts in the nature of the crime or changes in crime or community demography (Block and Block). Thus, it may be that shifts in the number or proportion of violent crimes in which a gun was used accounted for more of the change in homicide number and patterns that did the dynamics of victim-offender interaction.

VICTIM OFFENDER INTERACTION IN AGGRAVATED ASSAULT

The problems of sampling are so severe in analyses of aggravated assault that one might conclude that police reports of aggravated assault are useful only because they represent the small set of incidents which the police know about and are willing to retain on file. On the other hand, victim reports in a survey may represent only those incidents which the victim thinks are sufficiently imperaonal to be reported to an interviewer. The problems of accurate measurement of aggravated assault began to surface with the beginnings of victim surveys. In 1977, as we were getting the first returns from the NORC, National Crime Survey, it was clear that some of the incidents reported as assault were really fights and that the designation of victim and offender was more determined by our sampling frame than by any real difference in the behavior of victim and offender. This realization plus a similar problem for fraud resulted in a screen for all incidents to see if they should be defined as criminal acts.

At the inception of the National Crime Survey, the San Jose methods test indicated that fewer than half the assaults reported to the police were also reported to the survey interviewers and initial comparison of uniform crime reports for the twenty-six victim survey cities with victim survey rates resulted in a negative correlation (Boland). Thus, it might be concluded that police records of assault and victimization surveys are samples of almost wholely different phenomena. My 1977 analysis of police recorded aggravated assaults in Chicago, indicated that incidents called assault varied from

husband-wife domestic quarrels to crimes which looked very much like robbery. Further analysis of the dynamics of victim offender interaction through these police records probably reveals as much about police records as about the nature of aggravated assault. Table Five illustrates these realtionships.

TABLE 5

VICTIM PARTICIPATION IN AGGRAVATED ASSAULT AND OUTCOME, CHICAGO POLICE RECORDS, 1974

VICTIM PARTICIPATION	OVERALL	PERCENT NO INJURY	PERCENT SOME INJJRY	PERCENT DEATH	PERCENT GUNS	PERCENT OF WOUND
None	23	12	86	2	29	2
Fights						
Offender Starts	3	7	92	2	15	29
Victim Starts	6	4	76	20	38	23
Both Start	51	8	88	4	21	8
Intervene	11	11	87	2	33	15
Unknown	7	9	75	16	27	3

In police records most aggravated assaults were fights. Most of these began mutually and about four percent resulted in the death of at least one participant. A significant number, however, involved no victim participation or victim participation only as an intervener. Crimes which were started by the victim are far more likely to result in the victim's death than others where the nature of participation is known. However, dead men are not able to tell their own story and cannot say whether or not they began a fight. Overall, more than three quarters of these police reports are records of crimes in which two or more people actively participated either in a fight or as interveners in a fight.

Analysis of aggravated assault using current victim surveys is probably misleading. First, it is difficult to know how survey reported assaults are related to the universe of all assault victimization and how the effect of sampling affects the designation of an

individual as a victim or offender. Second, a large and unknown percentage of all assaults are series victimizations by national crime survey definition and are neither in NCS publications nor are they normally available in machine readable form for academic use.

PATTERNS OF VICTIM OFFENDER DYNAMICS AND OUTCOME IN RAPE

Growing awareness and concern for the victims of rape has resulted in the creation of many new programs to aid rape victims, psychologically, physically, and in their confrontation with the crime processing system. One result of this increasing concern may be a shift in the probability that a rape victim will notify the police of her assault. A second result has been an increasing number of studies of the offense of rape, its victims and its offenders.

One of the earliest and most controversial studies was Amir's study of Philadelphia based upon police records. Several later studies based upon police records (Chappel and Singer; Chappel, et. al.) failed to confirm Amir's findings. However, Chappel concluded that police records of rape differed so greatly from one American city to another that comparisons across cities were virtually impossible. In Amir's study of Philadelphia forty-three percent of offenders were total strangers to their victims. In a study of Los Angeles fifty six percent were strangers. In another of New York City seventy two percent were strangers. In a final study of Boston ninety one percent were strnagers. It may be that these relationships do vary greatly between cities. Just as likely, however, is that police recording practices are not uniform.

While studies based upon police records probably reflect differences in police practice as much as differences in the nature of rape, the use of the National Crime Survey allows for a greater uniformity of reporting and more concern for the victim's perspective. Griffin and Griffin have analyzed rape from this perspective. They believe survey data may also have problems, most notably, underreporting of crimes which would reflect poorly on the victim's own actions. Still, they conclude that victim-offender interaction has an important effect on the probability of physical injury. Using the National Crime Survey for 1973 and 1974, they found the offender's threat to be a more important determinant of injury (Gamma = .56) and completion (Gamma = .50) than resistance (Gamma = .36 and .31 respectively). Just as in my analysis of robbery, threat, resistance, injury and completion interrelate. As in robbery, armed threat is not likely to result in injury. Griffin and Griffin believe that their findings suggest that women may be well advised to resist their assailants with all means at their disposal. They find that most victims (86%) will not sustain serious physical injury whatever the resistance method employed.

In Table Six, the analysis presented for robbery in Table Two is replicated for 1976 National Crime Survey rape victims. For these

TABLE 6

PERCENTAGE OF RAPES IN WHICH THE VICTIM CLAIMS TO HAVE NOTIFIED THE POLICE,

	COMPLETION	ATTEMPT
RESISTANCE	61%	53%
	(23)	(66)
NO RESISTANCE	71%	27%
	(7)	(11)

victims completion, resistance and police notification are also related. Attempted crimes are less likely to result in notification than completed crimes but crimes in which there was resistance were no more likely to be attempts than those with no resistance. The percentage of rapes in which the victim reported resisting was far higher in 1976 (83%) than in Griffin and Griffin's analysis of 1973-74 (56%). This may indicate a real and significant change in women's behavior or a change in their description of crime. In both surveys, a far higher percentage of rapes were attempts (72%) than were robberies. Almost all robberies without resistance were completed regardless of what sample is analyzed.

THE VICTIM IN THE CRIMINAL PROCESSING SYSTEM

Very little research has been done on the effect of the victim on the criminal processing system. Black has analyzed the relationship between the victim's desires and character and the police decisions to arrest a suspect. Using data gathered while observing police in three cities, he concluded that the victim's desires did make a difference. In about forty percent of the cases, the complainant did not clearly state a preference for further action. In those cases where a preference was stated, it was three fourths of the time for police action. However, if the complainant wanted no formal police action, the police always complied. When formal action was requested, it was received in eighty four percent of the felonies and sixty four percent of the misdemeanors. Black saw this as an example of the conflict of universalism and particularism in the criminal justice system. This problem he believed was unsolvable except in a society in which all citizens agreed on laws and enforcement.

While little can be known of the victim's desire in most homicides, the decision to prosecute clearly hinges on the nature of victim-offender interactions. Killings defined as justified are not prosecuted. However, the definition of justification varies tremendously between jurisdictions. In Lundsgrade's study of Houston 11% of all homicides were defined as justifiable. In my research in Chicago in 1976 3% were defined as justified. It would appear that the definition of justification is far broader in Texas than in Illinois.

Recently, Williams has completed a study of the victim's role in the prosecution of violent crimes using the PROMIS file for Washington, D.C. in 1973. She found that victim provocation as defined by the prosecutor did affect the prosecutor's decision to decline prosecution. A personal crime which included victim provocation or participation was half as likely to be prosecuted as one which did not.

> The analysis indicate that provocation or participation of the victim did have an effect on the initial screening decision of the prosecutor but not on subsequent case processing decisions.....with respect to the prosecutor's decision to dismiss a case after charges were filed and decision of guilt made at trial, provocation was not a significant factor in any analysis. (p. 15.)

As Williams notes, these relationships are not unexpected. The prosecutor will chose for further action those cases which he believes he is most likely to win. Cases in which there is victim provocation or participation are believed to have little chance for success.

Williams found that the relationship of victim and offender as perceived by the prosecutor affected prosecution decision for every type of violent crime. She also found that many of the prosecutor's decisions to drop a case resulted from the court's perception of complaining witness problems in which victim and offender knew each other. However, she noted that much of this perceived non-cooperation was based on stereotypes or court errors rather than the witnesses' behavior.

Thus, the limited research on victim-offender dynamics and the criminal processing system indicates: first, victim desires and behavior are often taken into account by the police. Second, crimes in which there is evidence of victim participation or provocation are not likely to be prosecuted. Third, the relationship of victim and offender affect the prosecutor's decisions.

A RESEARCH STRATEGY

This paper has argued that the study of victimization must begin with the world view of the victim. The particular concerns of the victim and the macro and micro environment that surround the victim are different from those of the police and courts. Although these environments are interrelated, future research on victims of crime must have more concern for the victim and his perception of the criminal event than was true in earlier research.

By concentrating on victimization rather than on victims much victimological research has been both trivial and expensive. The National Crime Survey, by concentrating on the creation of police independent, crime incident estimates has eliminated much consideration of the nature of the phenomena of victimization except for demographic correlates. Once these few demographic correlates are analyzed, little else can be said from the victim survey. Furthermore, the non-crime variables included in the national crime survey are mostly ascribed characteristics, age, race, and sex, which are by definition not manipulateable through public policy. While the National Crime Survey can give reasonably good overall estimates of victimization, it is relatively useless in understanding the criminal event and its impact.

The National Crime Survey has been far too concerned with estimation of crime rates and the immediate economic and physical cost of crime. It has been far less concerned with the background of these crimes, their outcome and impact. The need for estimation has lead to data collection which could result in research with little explanatory power.

On the other hand studies of victims of crime based upon police records, either as the frame for interview samples or as a representation of the reality of victimization is also defective. The crimes which become police records are not a random sample of all crimes. They are a sample of crimes in which police action is needed. Thus many crimes which were only attempts and many which the police believed they were too busy to handle are excluded from analysis. Police records are not collected for criminological research. They are collected to fulfil the efficiency and crime catching goals of the department. As such they represent a micro and macro environment separate from that of the victim. Research on victim of crime has been largely barren, in part, because analysis was limited to a few ascribed characteristics rather than the crime event or because the sampling frame was inappropriate for the study of victims of crime.

The study of victims of crime must include not only the crime event, but also its impact on the crime's outcome and the criminal

justice system. It should include the study of the environment of crime, the relationship of victim and offender and their interaction. The criminal event should also be related to the criminal processing system through its affect on the police, prosecutor and court as they exist in their own micro and macro environment.

In constructing a series of studies of the nature of victimization and the criminal event from the victim's viewpoint, it should always be remembered that the study is not only of the incidence of victimization but also of primary crime prevention. Most crime is prevented by its potential victims, not by the police. The study of victims of crime is a study either of the failure or impossibility of crime prevention. The study of victim-offender dynamics in the crime event is the study of the actor's attempts to manage a dangerous situation. Therefore, future research on victim should be a series of inter-related studies including the following.

1. A study of the probability of victimization

   This study would be similar to the National Crime Survey but with far greater elaboration of behavioral and situational characteristics of victims and non-victims. In constructing this survey, far greater cognizance should be taken of the value of the in-person interview for defining the respondent's macro environment. Characteristics of the neighborhood, security precautions taken, and home occupancy could be measured. Thus in this first study, the framework fo the NCS would remain intact; however, additional information would be gathered which would make better use of in-person interviewing to describe the environmental and behavioral characteristics of the victim.

2. A detailed study of the criminal event

   The National Crime Survey has always been a very elaborate screening device for detecting low incidence phenomena. The costs of screening are far greater than the costs of interviewing victims. The second study would be based on the NCS screen and would include all victims of very low incidence phenomena such as rape and a sample of victims of higher incidence phenomena like burglary and larceny. Questionnaires would be designed separately for description of the micro environment and victim-offender dynamic of each type of crime. There would be separate and distinct questionnaires for rape, assault, burglary, and so on. In crimes of personal violence victim-offender dynamics are more important than in property crimes. Thus interaction would be a far more important component of the questionnaires for personal crimes than for property crimes. While each of the samples would be representative of one sort of crime the

total of all samples could not be used to depict crimes as does the current National Crime Survey.

3. A bridge study of the notification process

Included in each of the questionnaires proposed for study two would be a far more specific and elaborate description of notification than is currently available. As previously discussed, notification is the link between the criminal processing environment and the crime's environment. Yet, the structure of the NCS notification questions make this bridge more like a short but dark tunnel. Each form of questionnaire in study two will be designed specifically to study the notification process of that crime.

After the 1966 victimization studies, questions of the criminal processing system from the victim's point of view were mostly abandoned. While the victim may have little concept of the workings of the criminal processing system and its environments, the appearance of this system to the victim may give insight into the citizen's concept of criminal justice and the effect of that content on evaluation and support of the police. Thus questions should be included in study two which would describe the criminal processing system from the victim's viewpoint -- requests to sign complaints, police interviews, and court processing. These should not be considered as a fully accurate representation of the cirminal processing system, only a description of that system from the victim's viewpoint.

Also included in study three would be a study of the notification bridge between the macro environment of the crime and the crime processing. This bridge is a crucial link, yet little is understood about it. Once the police are notified they are expected to act. A study similar to that of Black and Reiss, but with a greater concentration on victim input might allow a description of the bridge process. However, the cost of a study based on observation of all police squad activities might be very costly. The Reiss study required observation of police activities very few of which were related to serious crimes.

Thus the study of the bridge function from the police viewpoint might be possible only through the reconstruction of those decisions using dispatch records as a sampling frame. This would of course eliminate crime for which there was not dispatch record or for which no formal police action was taken, but a street officer was involved.

4. The victim in the criminal processing system

Once a crime enters the criminal processing system, the victim becomes only a minor actor. Williams has shown that it is possible to analyze the victim's role as it is perceived by the system through the use of PROMIS. Other studies have confirmed this possibility. The victim in the criminal processing environment is only one of many factors affecting the outcome of the crime as it moves from police action through investigation, arrest, prosecution and conviction. It would be far more realistic to include an increased concern with the role and character of the victim as an appendix to research and analysis of criminal processing decisions than to field special studies.

Thus study four is not an independent study but a call for additional concern for the victim in studying the criminal processing system.

LIMITATIONS

1. This discussion of victim offender dynamics, the crime event, and criminal processing is limited to crimes which occur as events with separate victims and offenders. Thus the analysis is largely irrelevant to crimes which occur continually -- such as violations of environmental protection laws -- or crimes without a clear victim -- such as prostitution. The analysis can be applied to non-human targets, but only through an extension of the meaning of interaction. Thus, placement and exposure increase the probability of vandalism or burglary just as it increases the probability of robbery or rape. The criminal justice system is less likely to be invoked for an attempted burglary than one which was completed.

2. This discussion and the research proposed is primarily a one direction analysis. There is a movement from environment to criminal processing. It is also necessary to consider the aftermath of the criminal event and criminal processing on the victim and offender and upon the community in which the crime occurred. Historically only the effect of crime processing on the criminal has been studied. Recently research and treatment has become more concerned with victim and the community. This trend should continue.

SUMMARY

The study of victims of crime is most importantly the study of the failure of crime prevention by citizenry and by the police and secondarily the study of the active participation and precipitation of criminal events by their victims. Early victimological research concentrated on the active participation of victims of crime in their own misfortune. The development of victimization surveys shifted the emphasis of research away from the crime event to description of the overall incidence of victimization and the incidence of victimization as defined for demographic subgroups of the population. In this paper, it has been argued that the focus of victimization research should shift from measuring the incidence of victimization to defining the environment in which victimization occurs, from measuring victim participation to describing the dynamics of interaction within the crime event.

All crimes are events surrounded by a unique combination of micro and macro environment and history. This paper has summarized some of the research on victim-offender dynamics within these unique structures. It has been shown that these dynamics may affect the outcome of criminal violence in robbery, assault, and rape.

A series of four studies has been proposed to describe the role of the victim first in the micro and macro environment of the criminal event through an augmented victimization survey and crime specific studies of victims. Second, in the environment of criminal processing through a study of the notification bridge from crime to criminal process and greater concern for the role of victims in research on criminal processing. Part of the failure of victimology has been its failure to conceptualize the role of the victim or to develop a unified body of research on the victim from his own perspective. This paper has proposed a method to unify research and description of the victim of crime.

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THE FEAR OF CRIME: CAUSES AND CONSEQUENCES

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Introduction

In a paper presented almost exactly eight years ago, Furstenberg (1972) made an observation that has proven to be the understatement of the decade for researchers studying the fear of crime: "...the relationship between crime and its consequences is neither obvious nor simple." This observation is no less accurate today than it was eight years ago, despite the fact that our knowledge about the causes and consequences of the fear of crime has increased steadily during the period. Every advance that is made -- whether by refining concepts, by specifying and testing statistical associations, by obtaining more comprehensive data, or by some other means -- seems to generate more questions than it answers. But that should be expected; part of the nature of complex social phenomena is that their complexity becomes more and more apparent as they are examined more and more closely.

From a purely scientific standpoint, research on the fear of crime can continue indefinitely. There is no "critical experiment" that will answer all the questions, so there will always be hypotheses to test and new paths of inquiry to follow. However, from both a scientific and a practical standpoint, it is useful to take stock periodically of where we are, so that policy implications can be drawn from what is known already and general priorities can be set to guide future research efforts. This paper is such a stock-taking endeavor.

The paper is organized as follows: After a preliminary discussion of concepts and indicators, a model of the causes and consequences of the fear of crime is presented, and the components of the model are described in light of what we already know about the fear of crime. Finally, suggestions for future research are given, and some policy implications are discussed. No attempt will be made to present a comprehensive assessment of existing literature because that would duplicate much of the review recently completed by the staff at Northwestern University's Center for Urban Affairs (DuBow, McCabe and Kaplan, 1979).

CONCEPTS AND INDICATORS

Fear and Physical Harm

What is the fear of crime? We can define fear as an emotional reaction characterized by a sense of danger and anxiety. Provisionally, let us restrict fear to the sense of danger and anxiety produced by the threat of physical harm. Furthermore, to constitute fear of crime, the fear must be elicited by perceived cues in the environment that relate to some aspect of crime for the person.

By linking fear to potential physical harm, we do two things. First, we are forced to consider whether it is useful to differentiate between the reaction elicited by the potential of property loss and the reaction elicited by the potential of physical harm. I think the differentiation is useful; the former is more cerebral and calculating (and might best be described as "worry"), while the latter is more autonomic and emotional. Certainly, it seems reasonable to assume that the internal state of a person who remembers, in the middle of the night, that his 10-speed bicycle has been left outside unlocked is different than the internal state of a person who finds himself alone on a dark city sidestreet at 3 a.m.

This does not mean that the potential for property loss will never elicit fear. If the item at risk of being stolen is of sufficient value, especially relative to a person's resources (such as the monthly welfare check for a very poor family), then the possibility of theft could elicit fear. But in such extreme cases, theft ultimately represents a threat to physical well-being.[1] A more important point is that some property crimes contain cues about potential physical harm. To varying extents, property crimes involve the potential of personal confrontation with the offender -- someone who is assumed to be a stranger and whose predatory behavior with respect to property leads one to suspect that he may have no reservations about using violence if encountered. Thus, burglary should elicit more fear than simple larceny of some item left in the yard, which should elicit more fear than price-fixing by a remote corporation.[2] Furthermore, a perception that crimes of any type are pervasive may -- in itself -- act as a cue to infer that more fear-evoking crimes are also prevalent.

In any event, if there are important qualitative differences between responses elicited by threats of physical harm and threats of property loss, it is difficult to differentiate them with currently used survey items. For example, asking respondents, "how fearful are you of..." and tacking on descriptions of various crimes is inadequate; subjects are only given one dimension on which to respond. Furthermore, the distinction between emotional and "cerebral" responses (fear and

"worry") is not an exercise in hair-splitting; programs designed to alleviate them would seem to require different approaches.

The second thing that linking fear to potential physical harm accomplishes is setting a conceptual framework in which to examine fear of crime relative to fear elicited by events that have a potential of physical harm but that are not generally perceived as crimes (e.g., automobile accidents, pollution of the environment, inadequate testing of new drugs). Perhaps, as Silberman (1978:17) suggests, different degrees of "invasion of self" cause crime to elicit more fear than do "non-criminal" events with equal (or even higher) probablilities of physical harm. In any case, linking fear to physical harm encourages studying the fear of crime within a broader social context by forcing the recognition of commonalities in the objective aspects of crimes that elicit fear and "non-criminal" events that may or may not elicit fear. Recognizing the commonalitites is a necessary step before trying to explain why the events differ in the fear they elicit.

Actual and Anticipated Fear

In conceptualizing and measuring the fear of crime, we should keep in mind the distinction between actual fear and anticipated fear (see, for example, Fisher, 1978). Accepting the definition of fear as an emotional reaction characterized by a sense of danger and anxiety about physical harm, it is obvious that the person walking alone in a high crime area at night is experiencing something quite different than the suburbanite who is telling an interviewer that he or she would be fearful in such an area at night.

Actual fear of crime is triggered by some cue, and it is unlikely that a respondent is experiencing actual fear during a survey interview.[3] In their daily lives, actual fear of crime is probably experienced chronically by a relatively small number of people and intermittently -- in very delimited situations -- by most. Therefore, adequate measurement of the fear of crime requires that we try to determine not only the various types of situations in which people say they would experience fear, but also how often they find themselves in such situations and how strongly they have reacted to such situations in the past.

This does not mean that anticipated fear is not important. Anticipation of being fearful in particular situations may or may not be based on having experienced actual fear in similar situations during the past; if such a situation is encountered in the future, actual fear may or may not be elicited (or may be stronger or less strong than anticipated). However, assuming that people avoid or try to minimize the effects of stressful situations before they occur, we

can expect that anticipated fear -- as well as actual fear -- will produce behavioral responses.

As was the case with differentiating fear of physical harm from worry about property loss, the distinction between actual and anticipated fear is not an exercise in splitting conceptual hairs. Later in this paper, probable differences between the nature of responses to actual and anticipated fear will be discussed.

A number of conceptual issues have been omitted from this section because other writers have dealt with them. Specifically, differentiating the fear of crime from concern about crime as a social/political issue, perceptions of the extent of crime (in terms of rates or actual numbers), and subjective assessments of the likelihood of being victimized have been discussed by Furstenberg (1972), Block and Long (1973), Baumer and DuBow (1977), Fisher (1978), and DuBow, et al. (1979) among others.

A GENERAL MODEL

Figure 1 presents a general model of the causes and consequences of the fear of crime. It is complex; yet it is a simplification of even greater complexity. The model is not meant to be causal in the sense of a path diagram; rather it is meant to illustrate hypotheses about how categories of variables are interrelated. The specification of the causal strength and sequences of individual variables must await further research.

The model could easily be modified and adapted to apply to worry about property loss -- assuming that the conceptual distinction made earlier is useful. However, in this paper the model will only be applied to fear of crime as it was defined in the preceding section.

Because the model represents the current stage in the author's evolving ideas about the fear of crime, it is tentative. Finally, space and time limitations preclude a complete discussion of every component in the model and of how the model fits into the author's broader interests in the fear of crime.

Position in Social Space

The model starts with a set of variables that -- operating within a given socioeconomic structure[4] -- determine a person's position in social space. Part of this position in social space is captured in the term, lifestyle: "routine daily activities, both vocational activities (work, schools, keeping house, etc.) and leisure activities" (Hindelang, Gottfredson and Garofalo, 1978: 241). But it is more than that. Position in social space has a temporal aspect, extending into

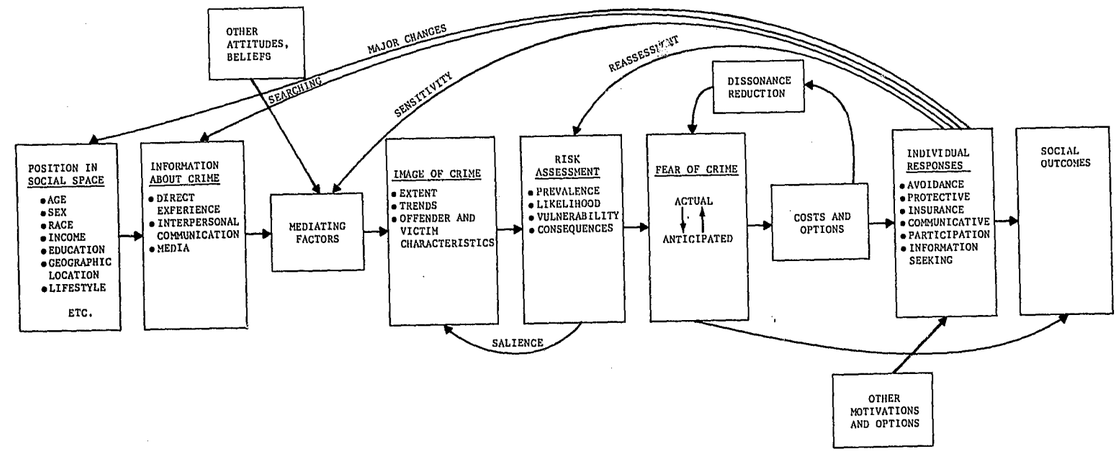

FIGURE 1
A GENERAL MODEL OF THE FEAR OF CRIME AND ITS CONSEQUENCES

the past to incorporate a person's learning experiences and into the future to incorporate a person's life chances.

Although position in social space is shown only as a starting point in the model, it probably should also be seen as having direct effects on the components in each successive stage of the model.

Information About Crime and Images of Crime

Position in social space strongly influences the amount and nature of information about crime that the person is exposed to. The model shows three major sources of information about crime: direct experience (as a victim or a witness), interpersonal communication about the direct or indirect experience of others, and the mass media. This information -- mediated by other factors -- provides the basis for a somewhat nebulous image of crime for the individual (see Baumer, 1978).

The mediating factors consist primarily of attitudes and interests which affect selective perception of the information available to the individual. For example, an individual with a great deal of racial prejudice may be more likely to notice that the offender in a news story about a crime was described as being black, or may be more likely to assume that the offender was black when the story does not mention racial characteristics.

The image of crime held by an individual consists of a number of elements: the extent of crime (both current levels and changes in the immediate vicinity of the home, in the neighborhood, in the entire city and various parts of it, in the state, in the nation), the nature of crime (relative proportions of different types of crime, the amount of violence involved in crimes), characteristics of offenders and victims (physical, psychological, social), and the consequences of crime (injury, financial loss, stigma). These images also inform the individual about the appropriate cues from which the threat of crime can be inferred -- such as the presence of strangers under certain circumstances (Fisher, 1978) or indications of "incivility" in a neighborhood (Lewis and Maxfield, forthcoming).

Risk Assessment

The images of crime and the cues they imply must be made relevant to the individual's situation before they can have any effect. Thus, the next component in the model reflects considerations used by the individual in "personalizing" the image of crime. Four considerations, all subsumed under the concept of risk assessment, are shown in the model:

(1) Prevalence: What are the amounts of certain types of crimes in places and situations of which I am aware?

(2) Likelihood: Given the prevalence of crime in certain places and situations and my exposure to such places and situations, how likely is it that I will be the potential target of a victimization?

(3) Vulnerability: Given my physical characteristics and protective resources, how attractive a target will I be for offenders and how well will I be able to resist an attempted victimization?

(4) Consequences: If someone attempts to victimize me or succeeds in victimizing me, what physical, psychological and financial losses can I expect to suffer, and how well can I absorb those losses?

Making these considerations clear and distinct for purposes of presentation is not meant to imply that individuals weigh each of them separately in a rational, calculating manner. The considerations will often enter into the fear-producing process unconsciously and/or indirectly. For example, a young man may have an unstated "sense" of invulnerability which dampens fear of crime, even though he lives in a high-crime area and frequents situations and places that involve relatively high risks of victimization.

The model shows a feedback loop -- labelled "salience" -- from the risk assessment component back to the image of crime. The loop is meant to illustrate that people's determinations of how relevant their images of crime are to their personal lives will affect how close to consciousness the images are kept.

Actual and Anticipated Fear

We are now to the point in the model at which some level of fear is assumed to have been produced, at least initially. It is worthwhile here to recall the distinction between actual fear and anticipated fear made earlier. Both are shown in the model, and they are presented as mutually influencing each other. If a person has felt actual fear in particular circumstances during the past, that person is more likely to anticipate feeling fear in similar future circumstances; if a person anticipates feeling fearful in some hypothetical situation, he or she is probably more likely to experience actual fear upon encountering a comparable situation.

Costs and Options

Responses to the fear of crime are mediated by a consideration of various costs and options. Although not shown in the model, these costs and options can be traced back to position in social space. The lack of necessary income may make it impossible to buy a car or use a taxi even though riding a subway produces fear; staying away from bars and discos at night may mean foregoing opportunities to meet interesting people of the opposite sex for many young men and women; moving to a safer neighborhood may be precluded by financial factors, racial bias, or a desire to maintain family ties. The list of examples could be expanded greatly, but the basic point is that responses to fear involve some costs that people are more or less willing and able to endure. Whether fear leads to a particular response depends not only on the intensity of the fear itself, but also on what options the person has available and how much the person values options that would be precluded by the particular response to fear.

It is important to note here that responses to actual fear may be less influenced by considerations of costs and options than are responses to anticipated fear. For example, if one senses imminent threat while in a darkened hallway, very few considerations (e.g., physical impediments) will interfere with the appearance of a response meant to decrease the danger (e.g., running to safety, turning lights on, calling for assistance). But if one anticipates feeling fearful in a darkened hallway, one is freer to weigh various considerations (e.g., the need to get to a particular destination, the desire to avoid being embarrased) in deciding whether or not (or how) to enter the hallway. At the very least, the immediacy of actual fear changes the values in the costs/options equations.

The model contains an important feedback loop -- labeled "dissonance reduction" -- between the consideration of costs and options and the feeling of fear. The classic psychological theory of cognitive dissonance (Festinger, 1957) basically claims that there is a strain toward resolving inconsistencies among a person's attitudes, beliefs and feelings. In the present context, the theory implies that the fear of crime might be redefined in light of the extent to which certain responses to fear are found to be possible/impossible or attractive/unattractive after a consideration of costs and options. There are two primary scenarios of redefinition that can be suggested:

(1) Redefinition might <u>dampen</u> fear. If the person cannot or will not respond to deal with the fear provoked by a situation (e.g., cannot afford to move to a different neighborhood, prefers to remain close to family in

high-crime neighborhood rather than move), the situation can be redefined as less threatening.

(2) Redefinition might <u>aggravate</u> fear. If the person chooses to expend a great deal of time and/or resources in responding to fear of a situation (e.g., investing in expensive locks and alarm systems), the situation can be redefined as even more threatening in order to cognitively justify the expenditure.

In addition to fear of crime itself (mediated by costs/options considerations), the model shows a set of exogenous factors that influence fear-relevant responses. This is meant to indicate that many of the responses that we normally associate with the fear of crime -- such as not going out in the evening or avoiding certain areas -- can be produced by factors other than fear (Skogan, 1976:13; Hindelang, <u>et al.</u>, 1978: Ch. 9). For example, surveys consistently indicate that the elderly have greater fear and go out at night less often than younger people. But this does not mean that the elderly go out less often primarily because they are more fearful; there are many other factors which influence the elderly to stay home (e.g., poor health). In fact, if we examine individual-level correlations in the National Crime Survey city data (8 cities surveyed in 1975), fear of crime does not "account for" much of the association between age and the frequency of going out in the evening for entertainment. The simple correlation between age and going out is -.41, and the introduction of a fear of crime indicator as a control variable does not produce a major change (partial r = -.38).

Responses to the Fear of Crime

Rather large proportions of people report that they have done <u>something</u> in response to crime or the fear of crime; the proportions of respondents who had "limited or changed" their activities in some way because of crime ranged from 35 to 56 percent among 13 cities in the National Crime Survey (Garafalo, 1977: App. D.). Other research has dealt with a variety of specific responses that people make. In their review of the literature on individual behavioral reactions to crime, DuBow, <u>et al.</u> (1979: 93-99) differentiate among and define the following five categories of responses.

- Avoidance: "action taken to decrease exposure to crime by removing oneself from or increasing the distance from situations in which the risk of criminal victimization is believed to be high."

- Protective behavior: behavior which "seeks to increase resistance to victimization." Two types are identified:

  - Home protection: "any action that seeks to make a home better protected whether it involves purchasing a device or merely using existing devices."

  - Personal protection: "actions taken outside the home, other than avoidance, to reduce... vulnerability when encountering threatening situations."

- Insurance behavior: behavior which "seeks to minimize the costs of victimization....it alters the consequences of victimization."

- Communicative behavior: "the sharing of information and emotions related to crime with others."

- Participation behavior: "actions in concert with others which are motivated by a particular crime or by crime in general."

DuBow and his colleagues are dealing with "reactions to crime," which is a more general phenomenon than responses to the fear of crime, especially as fear of crime is conceptualized in this paper. Clearly, some of their categories are more relevant to worry about theft than to the fear of physical injury in a criminal victimization. However, one of the most attractive features of their categories -- in addition to the fact that they seem to make meaningful differentiations among behaviors -- is that they cover the general idea of reactions to crime yet are flexible enough to be easily modified and used in a more focused discussion of either fear of physical injury or worry about property loss. Only minor changes in the categories' definitions would be needed to adapt them to an analysis of the fear of crime as defined here.

Of course, the contents of the categories would differ somewhat depending on whether one were examining worry about property loss or fear of physical injury. Insurance behavior, for example, is a frequent response for people who worry about theft; it seems less likely that people purchase medical insurance as a response to the fear of being physically injured in a criminal victimization. Perhaps the most important insurance behavior resulting from fear is passively handing over one's money when faced with a threat during a robbery.

I suggest that a sixth category of responses be added to the five identified by DuBow and his colleagues and that a differentiation be made within one of their categories. The differentiation involves

the first category, avoidance, and parallels the distinction between anticipated and actual fear. Avoidance generally results from anticipated fear, while the comparable response to actual fear is more properly called escape.

The sixth category that could be usefully added to the five of DuBow and his colleagues is information seeking. It involves two types of responses. First is the consulting of other sources; the individual actively looks for crime information in the media and questions other people for whatever information they might have.[5] The second type of information seeking is environmental scanning. In this response, the person increases the frequency and the intensity with which he or she "checks out" situations for cues that are thought to indicate danger.

There is no need to go into detail about the specific nature of the various responses that fall into each of the six categories. A few summary comments will suffice:

(1) As mentioned earlier, relatively large proportions of survey respondents claim that they have done something as a response to crime or the fear of crime.

(2) When asked about the specific actions they have taken, the most frequent responses involve relatively simple avoidance behaviors and home protection behaviors, especially staying away from certain areas at night and installing locks or locking doors at home (see, for example, Biderman, et al., 1967; Sundeen and Mathieu, 1976; Market Opinion Research Co., 1979).

(3) The proportions of respondents who mention any one specific action they have taken is generally higher in surveys that give respondents a list of actions to choose from than in surveys that use open-ended questions (DuBow, et al., 1979: 105; also, compare Biderman, et al., 1967: 129 with Market Opinion Research Co., 1979: 26).

(4) Many of the actions that effectively insulate people from the threat of physically harmful criminal victimization are not motivated primarily by the fear of crime. Among these actions are moving from a neighborhood, selecting a new neighborhood, choosing where to shop, and going out less in the evening for entertainment (Hinderland, et al., 1978: Ch. 9).

CONTINUED

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Such regularities in research findings lead one to conclude that, for most people, the fear of crime is not a very salient force in determining a wide range of behaviors; rather, it acts to condition or modify behaviors in certain delimited situations or it produces a rationale for avoiding places and situations that the person would rarely enter in any case.

This does not deny that, for some segments of the population, fear of crime is a very salient force in people's lives -- and often with good reason. For those people, individual responses to the fear of crime are made daily and become an integral part of their lives. The problem is that these same people are concentrated among the poor and powerless; thus, the options available to them do not permit them to make the types of responses (e.g., moving to a safer neighborhood, avoiding mass transit systems or walking, living in an apartment building with private security guards) that would effectively insulate or protect them from fear-producing situations. Fisher's (1978: 186) description of the plight of the public housing residents that he studied sums up the problem for the poor in high-crime areas:

> They live in an environment where the threat of crime is already present. The awareness of crime, whether picked up by direct observation, the reports of friends and neighbors, or inferred from the appearance and behavior of "strangers" in the area brings the emotion of the fear of crime into the foreground of their consciousness. There is little they can do to reduce their fear. It must be suffered in silence as part and parcel of their under-class status.

On the other hand, the anticipation of fear experienced by more affluent members of society can have important, if more subtle, consequences. But before moving from fear-of-crime responses to the broader social outcomes of those responses, brief mention should be made of the feedback loops going from responses back to earlier components in the model.

Feedback Effects of Responses

Avoidance behaviors can result in decreasing the amount of crime that the person is exposed to and -- therefore -- his or her risk of being victimized. These behaviors can consist of major changes in the person's lifestyle; thus, one loop in the model goes from individual responses back to position in social space. More likely, avoidance responses will consist of less encompassing behavioral adjustments that are not extensive enough to affect position in social space, but that can still decrease the prevalence and likelihood of victimization for the person. These more minor adjustments

are shown in the model as influencing a direct reassessment of risk. Of course, the effects of either type of avoidance behavior -- major change or minor adjustment -- on risk assessment will depend on the amount of distance placed between the person and the threatening situation. For example, staying home at night in a high-crime area will not be as effective as moving out of the area.

Because avoidance responses lead to changes in risk assessment, one would expect them to dampen the fear of crime. They probably do, but the effect would seem to be on actual fear; anticipation of fear might remain unchanged. Thus, indicators of the fear of crime that do not differentiate between actual and anticipated fear might not be sensitive to the impact of avoidance behaviors on fear.

The other factors in risk assessment -- vulnerability and consequences -- can also be affected by individual responses to fear through the "reassessment" feedback loop. Again, the resulting changes in risk assessment can impact on the fear of crime (actual and/or anticipated). For example, carrying a weapon (protective behavior) or joining with others in a neighborhood watch program (participation behavior) could decrease a person's feeling of vulnerability, and communicative responses might make the person feel more social support, thereby easing the threat of dire consequences.

The sixth category of individual responses to the fear of crime -- information seeking -- that we previously added to the five suggested by DuBow and his colleagues affects both the amount of information about crime to which the individual is exposed and how that information is selected. These processes are indicated, respectively, by the "searching" and "sensitivity" feedback loops in the model. The person actively seeks out a greater quantity of information about crime and is more sensitive to information and cues which he or she might not have noticed previously. Generally we would expect increased searching and sensitivity to lead ultimately to increased fear. However, it is possible that information-seeking responses will result in the person discovering that the threat of victimization is not as serious as he or she had believed initially; potentially, this could dampen fear.

Social Outcomes

The final component in the model represents the broader social outcomes produced by individual responses to the fear of crime. These social outcomes are not the simple summations of individual responses; the individual responses can be viewed more appropriately as catalysts that initiate social processes which then assume their own dynamics and logic.

Conklin (1975) was among the first to investigate social processes generated by individual responses to the fear of crime -- although the general effects noted by Conklin had been noted by previous writers (e.g., Jacobs, 1961). Conklin questioned the Durkheimian notion that crime leads to increased social solidarity as members of society reinforced the normative order by jointly reacting to crime. Instead, Conklin argued that crime produces fear, and that responses to fear unleash a series of negative social outcomes -- e.g., heightened interpersonal distrust, withdrawal of support from the systems of formal authority devised to control crime, and decreased levels of social interaction. This latter, according to Conklin, leads to a weakening of informal social controls in the area affected; this, in turn, leads to an even greater amount of crime. Other features thought to characterize this cycle are the closing of businesses in an area and the moving away of the area's more affluent residents, both of which tend to decrease the area's tax base and depress the situation even further.

A limited test of Conklin's hypotheses has been conducted by Fisher (1978) in a study of public housing units. He found little support for the position that individual responses to fear generate more crime; he concluded that if any small effect of that type occurred, it was offset by the decreased likelihood of victimization produced by individual responses to fear. In addition, Fisher found that crime had little effect over time on the propensity of people to leave the project or on the mix of types of families (e.g., as measured by income and composition variables) living in the units. The small effects that he uncovered would take a long time to change the characteristics of the community and were probably negligible in comparison to the effects of public policy choices unrelated to crime (e.g., housing, welfare, transportation policies).

Fisher did speculate that crime and the anticipated fear of crime might have greater effects in deterring people from moving into an area with a high-crime reputation. Most people who have the resources enabling them to make such a choice, however, probably don't even seriously consider high-crime areas in deciding where to live. And, to the extent that crime and anticipated fear enter such decisions, they are difficult to separate from other considerations (e.g., housing quality, aesthetic features, good schools) which are associated with levels of crime.

The discussion above applies mostly to social outcomes produced by avoidance and protective behaviors. Among the other categories of individual responses to fear, communicative behavior and information seeking would seem to have little effects on broader social processes, except to the extent that they "cycle back" to aggravate or dempen the fear of crime, which might in turn affect

other categories of individual responses. Similarly, the effects of insurance behavior produced by fear of crime would seem to be pretty much limited to the individuals involved.[6]

Possible social outcomes produced by the final category of individual responses to fear -- participation behavior -- are much more open to question. Polar possibilities include an increased sense of community spirit and interpersonal trust versus repressive vigilantee episodes which increase social conflict.

Finally, the model shows a direct link between the fear of crime and social outcomes, by-passing behavioral responses to fear. The idea communicated by this link is that the fear of crime, if widespread,[7] can feed directly into attitudes that have broad social consequences, regardless of the behavioral responses that people make to fear. For example, fear might lead to a sense of distrust and alienation from social life. Once such generalized attitudinal sets become common, they can lead to important social outcomes that are not specifically related to crime -- such as non-interest and non-participation in political processes or a disregard for the plight of less fortunate members of society. In this sense, fear can be viewed as an impediment to attitudes and feelings which encourage a fully social existence.

Research and Policy Implications

As noted in the introduction to this paper, our knowledge about the causes and consequences of the fear of crime has been increasing steadily, but each increment of knowledge gained seems to add to the proliferation of issues to be researched. Even in the simple model presented and described above, each component and each proposed connection between components present questions for further research: What is the nature of information about crime received by individuals, and how does that information vary across individuals? How do various attitudes and beliefs affect selective perceptions of information about crime? How accurately do people assess their victimization risks? What is the relationship between actual and anticipated fear? What are the costs and options conditioning an individual's responses to the fear of crime, and how do they operate? What are the social outcomes produced by individual responses to fear, and how can those outcomes be altered? The list could be expanded greatly, and a complete discussion of all the potential research issues is impossible in this paper. In addition, it is obvious that no single research project could be designed to test all of the hypotheses contained in or derivable from the model. Therefore, the gaps in our knowledge must be filled incrementally. In this section, attention will focus on a few research issues that the author believes have the greatest relevance for policy.

Rationality vs. Irrationality

Although not an issue on which research is recommended, the question of whether the fear of crime is rational or irrational will be disposed of first because it has become an unnecessary impediment to discussions about the fear of crime.

The question is generally raised in terms of whether a particular demographic group (e.g., the elderly) has an "irrational" fear of crime, given the relatively low rate of personal victimization for the group. There is no allowance for irrationality built into the model presented in this paper. However, using the example of the elderly, the model does not preclude the possibility that the elderly might have both lower victimization risks and higher levels of fear than younger people; in fact, the model contains a number of factors which might produce such disparities (e.g., differences in perceptions of vulnerability in the risk assessment component of the model).

The point is that we must look for explanations of findings such as the apparent fear/risk discrepancy between older and younger age groups rather than arguing about whether to label such discrepancies as rational or irrational. Balkin's (1979) attempt to show that the likelihood of victimization among the elderly is not low (relative to younger age groups) when a measure of exposure is taken into account, is a useful approach to the problem.

Focus on Social Outcomes

One of the highest priority research tasks is trying to untangle and specify the effects of fear and individual responses to fear on broader social processes. The media, particularly in large urban areas, often communicate a dramatic picture of social outcomes supposedly produced by the fear of crime -- the image of the city under siege. However, it may be that fear and individual responses to fear have only minor effects on broader social processes, especially relative to other factors such as economic changes or race relationships. If the latter is true, then the policy imperative for conducting research on the fear of crime will be weak, and scarce research resources will have to be allocated to other topics.

In assessing the social outcomes of the fear of crime, it will be useful to place the topic in a broader conceptual framework. Previously, a colleague and I (Garofalo and Laub, 1978) argued that the fear of crime should be understood within the more general context of "concern for community," which in turn should be viewed as a factor influencing the even more general experience of the quality of life. Whether that particular approach is accepted or not, there needs to

be special attention devoted to specifying the interrelationships between the fear of crime and other phenomena that may produce the social outcomes of interest.

Fear of Crime and Other Fears

Fear of crime was defined earlier as an emotional reaction characterized by a sense of danger and anxiety about the potential for physical harm in a criminal victimization. It was also noted that this definition encourages research into emotional reactions (or lack of such reactions) to "non-criminal" events which present potentials for physical harm that are equal to or greater than the potentials posed by criminal victimization. Research directed at determining why people fear street crimes but do not fear automobile accidents or environmental pollution (or if they do fear such events, how the nature of that fear differs from the fear of crime) should serve to highlight, through contrast, the major elements involved in the fear of crime. Specification of the major elements is a necessary step in devising programs and policies to address the fear of crime.

Nature of Actual and Anticipated Fear

At many points in this paper, the differentiation between actual fear and the anticipation of fear has been utilized. The conceptual distinction between the two aspects of fear makes intuitive sense, and it seems logical to postulate that they have differing effects on individual responses (and, therefore, on social outcomes). It also seems reasonable to expect that different intervention strategies are appropriate for actual and anticipated fear, and that anticipated fear can be alleviated more easily than can actual fear. For example, anticipated fear is probably more influenced by distorted information about crime than is actual fear, which is probably more influenced by the objective threat of crime (although both aspects of fear are affected by media depictions and objective circumstances to some extent). Thus, programs meant to alleviate the fear of crime should take these considerations into account.

Because the actual/anticipated distinction has many policy-relevant implications, research is needed to explore several issues raised by the distinction: What are the causal mechanisms producing each type of fear? How do the two types inter-relate and affect each other? What are the individual responses and social outcomes produced by each type?

Development of Indicators

The need for research on the distinction between actual and anticipated fear raises the methodological issue of measurement. In the earlier section on concepts and indicators it was pointed out that current survey items do not differentiate well between fear of physical harm and worry about property loss or between actual and anticipated fear. We also must develop indicators that reflect differences in the saliency and intensity of both actual and anticipated fear experienced by people.

But the need for more refined indicators does not just apply to aspects of the fear of crime. Consideration of the model presented in this paper reveals a number of areas in which we lack good indicators. Measurement of the amount and the nature of information about crime to which people are exposed -- and how people select and process such information -- has barely begun. Surveys have contained items bearing on some aspects of subjective risk assessment (particularly prevalence and likelihood), but perceptions of personal vulnerability and expected consequences remain untapped. The configurations of trade-offs -- costs and options -- that mediate between the fear of crime and individual responses to fear have yet to be measured. This list could be expanded greatly, but the primary point has been made: the development of a number of sound indicators will have to precede any research that makes more than a superficial examination of the complexities underlying the causes and consequences of the fear of crime.

Feedback Loops

The model presented in this paper shows several important feedback loops, indicating that the development and changes in levels of fear are not simple recursive processes. These loops are very important for policy considerations because they indicate potential points of intervention which can interrupt upward spiraling cycles of fear (when the loop represents positive feedback) or enhance fear-dampening processes (when the loop represents negative feedback).

Of course, before the appropriate policy decisions about intervention can be made, research is needed to specify the exact nature of the feedback loops and the conditions under which they provide positive or negative feedback to fear-producing processes. And this requires longitudinal research with all the difficulties that entails. Furthermore, answering questions about many of the feedback processes will require in-depth longitudinal research utilizing relatively small numbers of subjects -- so that subtle, short-term changes can be detected -- rather than large-scale, superficial panel surveys in which successive measurements are spaced months apart.

Fear and Caution

The discussion on which this paper closes contains both a suggestion for further research and a conceptual warning. There is some danger of approaching the fear of crime as if it is an unmitigated evil that must be eliminated completely. Given current realities in the United States, complete elimination of the fear of crime is not only impossible, but probably undesirable. Fear is functional to the extent that it leads people to take reasonable precautions.

Figure 2 presents a visual hypothesis of how various intensities of fear may be functional or dysfunctional in a person's life. The complete absence of fear is dysfunctional -- at least in urban areas -- because the individual is not motivated to take reasonable cautionary measures, such as avoiding the possibility of being alone at night in obviously dangerous places or not engaging in verbally aggressive behaviors in situations which can be expected to elicit physically aggressive responses from others. The figure posits that a small amount of fear is functional because it is sufficient to produce reasonable caution. However, increases in the intensity of fear quickly become dysfunctional again because responses -- both behavioral and attitudinal -- go beyond what is necessary to prevent victimization and produce effects such as unnecessary avoidance of potentially rewarding social interactions and unwarranted distrust of others. Of course, the pattern of relationship shown in Figure 2 would differ depending on the actual risk of victimization in one's social situation; for example, the area of the curve in the "functional" portion of the graph would probably be wider (extending to a higher intensity of fear) for a person living in a very high crime area.[8]

Research is needed to determine how much fear is functional or dysfunctional for people. Figure 2 hypothesizes that only low intensities of fear are functional and that the functional nature of fear dissipates very quickly as it intensifies further. In any event, it may be healthy to remind ourselves from time to time that elimination of fear would not eliminate the risk of being victimized, and that we may want to think in terms of how to elicit appropriate precautionary behaviors and attitudes without eliciting unnecessary fear. One often has the impression that programs trying to elicit certain crime prevention behaviors engage in overkill by sensationalizing crime and thereby producing more fear than is needed to motivate the intended crime prevention responses.

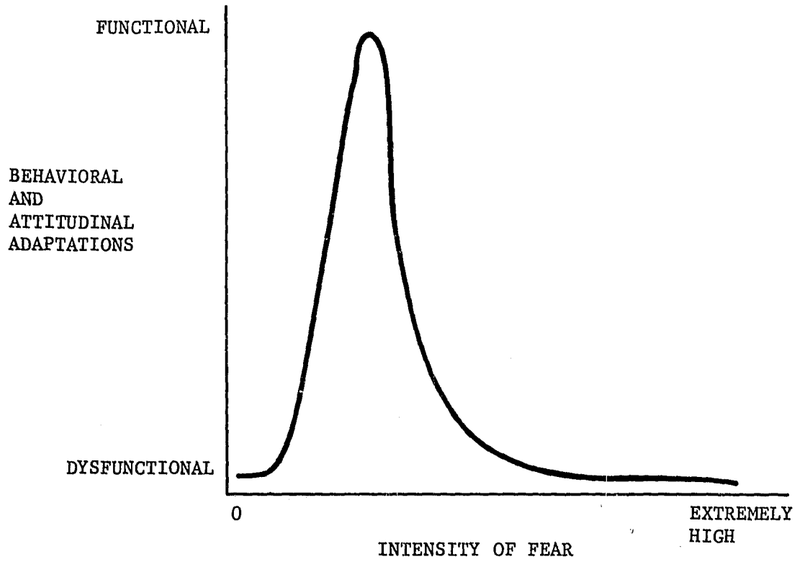

FIGURE 2
HYPOTHETICAL RELATIONSHIP BETWEEN INTENSITY OF THE FEAR OF CRIME AND THE FUNCTIONAL/DYSFUNCTIONAL NATURE OF ADAPTIVE REPONSES

NOTES

[1]A piece of property can also be valued highly because it is an integral symbol of self. Theft of such property is similar to a physical attack.

[2]Of course, other factors are involved here, such as images of the "types of people" who commit various kinds of crime and whether any potential confrontation with an offender would occur in public or somewhere hidden from public view.

[3]There may be extreme cases in which the threat of crime is so pervasive and powerful that the respondent -- and even the interviewer! -- is experiencing actual fear during an interview. Perhaps more likely, but still uncommon, is that survey questions will act as cues to bring latent fear to the surface.

[4]The broader effects of the socioeconomic structure are extremely important and are being considered in the author's larger work on this topic.

[5]I would keep the questioning of others separate from DuBow, et al.'s "communicative behavior" category, which should probably be restricted to interpersonal communications aimed at catharsis or at increasing social solidarity.

[6]One could argue, however, that worry about the theft of property could result in a greater use of market insurance, which in turn leads people to be more careless with their property, thereby increasing the likelihood of theft.

[7]In a Canadian study, Hartnagel found no relationship between the fear of crime and indicators of neighborhood cohesion and social activity. He notes that, in order for the fear of crime to affect these phenomena, the fear would have to be above a certain threshold necessary to disrupt ingrained habits and attitudes and be widely shared in the community; "relatively isolated individuals experiencing the fear of crime may not be sufficient" (Hartnagel, 1979:189).

[8]Although Figure 2 and this discussion apply to the fear of crime as defined in this paper, the same approach could be applied readily to fear of other events and to worry about property loss.

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MULTIPLE VICTIMIZATION: EVIDENCE, THEORY AND FUTURE RESEARCH

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Introduction

Without exception, victimization surveys done over the past fifteen years have found that the great majority of the surveyed population reports no incidents at all, as having happened to them during the period about which they were asked; a minority reports that they experienced one incident, among the types of things about which they were asked; and (generally) successively smaller proportions report having experienced two, three .... n incidents of those types. This last group has come to be referred to (rather misleadingly[1]) as "multiple victims"; and it is this group, and their experiences, with which this paper is concerned.

The phenomenon of multiple victimization, and those unfortunate members of the population who experience it, raise a number of problems. Some of these problems are methodological; in particular, multiple victims pose a host of problems for those interested in victimization surveys, at least those surveys (like the National Crime Surveys now being carried out by the U.S. Census Bureau for the Law Enforcement Assistance Administration) which aim to measure the volume of (some kinds of) crime or victimization in the general population. But multiple victims also raise some important substantive issues. Why do some people become victims of crime at all, whereas others do not? To what extent can people act in ways that minimize, if they do not eliminate, the risk of future victimization? What are the social, psychic, and economic costs of being the victim of a crime? It may turn out that the answers to these questions are no different in the case of multiple victims, than for those victimized once only; but even if that is so, those answers may be a lot easier to see, if we look for them in the vicinity of multiple, repeated or recurrent victimization than if we look where it is occasional, sporadic or an egregious event.

This paper will review briefly the available evidence on mutliple victimization, and will sketch a theoretical framework within which it might be studied, as part of a broader effort aimed at explaining the observed distribution of criminal victimization; it will then indicate what appear to be some promising directions for future empirical research on multiple victims.

THE EVIDENCE ON MULTIPLE VICTIMIZATION

Having ascertained the existence of multiple reported victimization in surveyed populations, the next step is to ask whether it is more than a random phenomenon: this has usually been done by comparing observed (survey-reported) distributions of incidents ($k = 0, 1, 2 \ldots K$) with the distributions which would be expected if victimization were a Poisson process characterized by a transition rate λ which is constant over the entire surveyed population (in practice, of course, λ is estimated from the sample mean rate). Almost invariably, the answer has been that the observed and expected distributions do differ to an extent which is statistically significant, in a particular way: observed distributions contain more non-victims, and more multiple victims, than the Poisson process predicts. For evidence on this point, see, e.g., Sparks, Genn and Dodd (1977:88-90); Hindelang, Gottfredson and Garofalo (1978:127-36); Aromaa (1971, 1973); Wolf (1972); Reynolds (1973); Ennis (1967); Reiss (1967); Biderman et al. (1967).

It appears reasonable, then, to reject the hypothesis that criminal victimizations "cluster" in the population for just the same reason (i.e. "chance") that flying bombs clustered in particular blocks in London, or that chromosome interchanges occur with certain frequencies after organic cells are irradiated by X-rays (see Feller, 1950:159-64). Unfortunately, that rejection would be more interesting if there had ever been any reason to accept that hypothesis in the first place. As Coleman (1964:291) has pointed out, the importance of the Poisson process in relation to social phenomena does not lie in its empirical fit to social data, but in the assumptions on which the distribution is based, and the fact that these may be reasonable assumptions about the process underlying the phenomena. To say that the Poisson distribution does not fit the observed distribution of victimization is to say that one or more of those assumptions is not valid: e.g., that events are not independent or that the process is not governed by a transition rate λ which is the same for each member of the population.

Before turning to these possibilities, we ought to note some limitations of the research on this subject which has been done to date. First, it may be that the deviation from expectation under a Poisson process -- too many non-victims, and too many multiple victims -- is the result of response bias: our data, after all, concern the numbers of incidents mentioned to interviewers, and that almost certainly is not the same as the numbers of incidents actually occurring. We have good reason to believe that most victimization surveys -- in particular, the National Crime Surveys -- severely understate the victimization experience of those surveyed; the observed frequency distribution may owe in part to the fact that some respondents are more "productive" than others when asked about things which may have

happened to them in the past six months or year. It is doubtful, however, that this can explain the whole of the deviation from chance expectation; conceivably, it may mask the extent of that deviation. The question is whether incidents not now being reported to survey interviewers are incidents which have happened to persons reporting at least one other incident, or whether they are mostly incidents which happened to persons reporting to no incidents at all. For the moment, there is little evidence on this way or the other (see, for some discussion, Sparks, Genn and Dodd, 1977:95-7). But in either case, it is difficult to see how under-reporting to interviewers could be the whole story.

A second limitation of research on this subject to date concerns so-called "series" victimizations, i.e., those cases in which a respondent says that several things happened to him in a certain time period, but in which he cannot remember precise numbers or details of those incidents.[2] By definition, such a "series" victim is a multiple victim; but it can be argued that "series" incidents should be excluded, or counted as one victimization only, when considering the distribution of victimization, especially since such incidents are necessarily measured with great imprecision. (I shall return to the problem of "series" victimization below.) It appears to make little difference to the basic conclusion, in fact, whether such cases are included or excluded from the observed distribution of victimization (cf., e.g., Hindelang, Gottfredson and Garofalo, 1978).

A third limitation of the studies cited above is that they all involved cross-sectional data derived from a single interview in which the respondent was asked about a time period (usually a year) preceding the interview. For a variety of reasons, it is not easy in practice to partition that time period in analyzing survey data; indeed, it is often difficult to be sure that reported events are dated and/or ordered accurately. The restriction to cross-sectional survey data makes it impossible to distinguish between two competing explanations of multiple victimization (to be discussed more fully below). But the main problem with such data is that they do not permit us to look at multiple victimization as a (possibly) continuing phenomenon, enduring over some substantial time period, or succession of time periods, in the victim's life. One longitudinal data set -- consisting of responses from successive interviews with respondents in the national household panel component of the National Crime Surveys -- is at present being analyzed by Reiss; but the difficulties posed by this data set are considerable (see Reiss, 1977).

Unfortunately, when we move from cross-sectional survey data to consider a number of time periods -- whether these be survey reference periods, or arbitrary intervals of time such as one calendar year --

it is not really very clear what a "multiple victim" even is. Consider, for example, the seven six-month periods on which a respondent in the NCS surveys may report. Suppose he or she is assaulted in time period t_1, assaulted (or something) again in t_2, again in t_5, and then three times in t_6? Suppose that a house or store is broken into in t_1, and then again in t_7? What if a respondent experiences a "series" of assaults in t_2, another series in t_4, and then single discrete assaults in t_6 and t_7? Is someone a "multiple victim" if their house was broken into in 1956, and again in 1980? If they suffer any kind of criminal victimization, over their lifetime? (Plainly the answer to the last question must be "No"; otherwise one could never cease to be a multiple victim once having attained that status. There is nothing to be gained by treating "multiple victimization" as an absorbing state.) I shall suggest below a way in which this question may be tackled. But that it still is a question shows how much work remains to be done on the problem of multiple victimization.

Multiple victimization raises a number of further methodological problems for those interested in carrying out victimization surveys.[3] But in addition, there are some important substantive reasons for studying multiple victims. As I have already suggested, they may illuminate more general causal processes, and thus help to show how far, and in what ways, the attributes or behavior of victims themselves may help to explain their victimization. But in addition, it can be argued that even if multiple victimization were merely the result of chance (or "bad luck"), and if the number of multiple victims were no greater than one might expect from a Poisson or other random process, nonetheless those victims would constitute an extremely important group. It seems clear that, in general, the consequences of one-time victimization are of a comparatively unserious kind, and that such incidents (even occurring in a fairly short time period, e.g., six months or a year, but still more so over longer periods) are relatively unimportant, from the victim's point of view and the standpoint of public policy. (As LeJeune and Alex, 1973:278-79, have shown, even so serious -- and so rare -- a crime as "mugging" may have consequences which are not always adverse.) But those whose lives are frequently or chronically affected by crime are another matter. It seems likely that for many such persons, the social meaning of crime and victimization is very different from that which those things have for one-time victims. (For some evidence bearing on this, see Sparks, Genn and Dodd, 1977: chap. 8; Hindelang, Gottfredson and Garofalo, 1978:167-70.) Thus, multiple victims would be an important group to study even though they were not as frequent as they now appear to be; and of course it would not follow that their excessive victimization was in fact due to "chance" (whatever that might mean), even if it were no more frequent than the Poisson distribution would predict.

MODIFICATIONS OF THE POISSON MODEL[4]

Suppose that we assume that the observed distribution of victimization, with its excess of multiple victims, is real and not artificial. How might that distribution be explained? As is well-known, such frequency distributions can be reasonably well reproduced by a number of simple probabilistic models, resting on different assumptions from those which govern the simple Poisson process. One of these, which owes originally to Polya, abandons the assumption that events are statistically independent, i.e., that one event's occurrence does not affect the probability of subsequent events. Instead, in the present context we might suppose that being a victim on one occasion increased one's future probability of victimization. Models of this kind have been extensively treated by Coleman (1964) among others; Coleman describes them as "contagious Poisson" models, though as Greenberg (1979:269) has pointed out, "reinforcement" might in many contexts be a more apposite term.[5] In criminology, something of the kind was posited by some "labeling" theorists, who hypothesized that the more often an offender is arrested, convicted or otherwise stigmatized as "deviant", the more likely he or she is to go on offending in the future (see, e.g., Carr-Hill, 1971; a similar model has been applied to absconding from juvenile institutions by Green and Martin (1973)). There may be social situations in which such models are reasonable intuitively; but criminal victimization does not seem to me to be one of them. We might suppose, for example, that a burglar breaks into a house or store and finds many things worth stealing and a few precautions against theft; he tells other burglars about this, or plans to go back himself, thus increasing the probability of second and sebsequent burglaries. Or again, a man who has been assaulted may become paranoid and belligerent, take lessons in self-defense and so on, thereby increasing his probability of being assaulted in the future. But these examples are pretty far-fetched; and it is not easy to think of others. In particular, it is not easy to apply concepts like "contagion" or "reinforcement" to repeated or frequent victimization of different types, e.g., burglary followed by robbery followed by car theft.

A more plausible modification of the Poisson process was first discussed by Greenwood and Yule (1920). This relaxes the assumption that the entire population can be characterized by the same transition rate, and assumes instead that that population consists of persons (or other units, e.g., organizations) having different degrees of "proneness" or susceptibility to the phenonenon in question; and that that "proneness" is itself distributed in the population in a particular way. Then, among sub-sets of individuals characterized by the same "proneness", events -- for example, accidents or criminal victimizations -- assumed to occur independently and "at random", so that for each such sub-group, given its average "proneness", there would still be some variation or clustering around that average. (For example,

even in sub-groups with very low "proneness" there might still be expected to be some extreme multiple incidents, purely by chance.) Greenwood and Yule hypothesized that the "proneness" they were studying (in connection with data on accidents in factories) was distributed according to a two-parameter (Pearson type III) distribution,[6] and that the actual occurrence of incidents was governed by a set of Poisson processes with different pronesesses as transition rates. It can be shown that the Greenwood-Yule model fits observed distributions of criminal victimization, from several surveys in different countries, quite well (see, e.g., Sparks, Genn and Dodd, 1977:92; Aromaa, 1971, 1973; Wolf, 1972).

Quite apart from considerations of goodness of fit, the Greenwood-Yule model -- based as it is on heterogeneity or differing degrees of risk or "proneness" in the population -- has a certain intuitive plausibility where the explanation of such things as accidents or illnesses in concerned. In such a model, differences in susceptibility or proneness are conceived of as relatively invariant, in the sense that they are unaffected by the number of times a person has previously suffered the thing in question. Thus, in the case of accidents, it is assumed that some person are just naturally clumsy or are given to taking imprudent risks, e.g., in the course of their work; others are naturally adept or cautious. These two groups' different experiences are then conceived of as being caused by their basic attributes, subject to a residual "chance" variation which behaves in accordance with a Poisson process. Though this is an obvious oversimplification, it is a reasonable first toward the explanation of the observed facts.

The notion of "proneness" needs careful interpretation, however, and may be extremely misleading where criminal victimization is concerned. The term is harmless enough, if it is understood to refer merely to variations in the probability of experiencing a certain event in a given time period. But there is a danger that it may be understood to imply something rather more than that, namely, that such variations in risk are caused by inherent attributes of persons (cf. "clumsiness"); and this is certainly not the case. As we shall see, while we may associate variations in risk with particular groups or categories of persons, the causes of those variations may lie in the social situations of those persons, or places to which they usually go, and need not be anything inherent in the persons themselves. With that caveat, I shall continue to use the term "proneness", not merely to honor established usage but because I cannot think of an equally convenient alternative.

It is unfortunately true that models based on the notion of "contagion", and models (like those of Greenwood and Yule) based on heterogeneity or differing pronenesses, have limiting distributions

which are identical (see Feller, 1943); it is not possible to choose between them, on the basis of cross-sectional data alone. The NCS national household data, based as they are on (ideally) seven-wave panels, could in principle be used to see if the probability of subsequent victimization increased, given past victimization (as "contagious" models predict). As I have said, however, I do not think that in general those models are reasonable; if they did turn out to be supported by the NCS data, I for one would probably try to cast methodological doubts on the findings.

An explanation of multiple victimization based on heterogeneity still needs some further modification, however. For models of the Greenwood-Yule type have typically assumed that individuals' "pronenesses" tended to remain relatively fixed. But it is not necessary to make this assumption; and in the case of criminal victimization it is plainly unreasonable to do so. On the contrary, it seems plain that individuals' risks of victimization, though perhaps relatively durable, are nonetheless a function of personal and social characteristics, and so can be altered, if those characteristics are changed.

Analytically, the situation is somewhat similar to one recently discussed by Eaton and Fortin (1978) in relation to schizophrenia. Persons diagnosed as schizophrenic have, from time to time, acute episodes in which they may become deluded, hallucinated, and generally out of touch with reality; in between such acute episodes, however, they may be able to function more or less normally. But some chronic schizophrenics also go through spells of time in which their functioning is mildly impaired; and during these spells, they have a much higher probability of experiencing an acute episode than at other times. Eaton and Fortin found that the frequency distribution of acute episodes experienced by a sample of schizophrenic patients they studied resembled the skewed distribution of reported incidents found in most victimization surveys; and they found that a more accurate prediction of those episodes could be made if they knew the numbers who (in the time period in question) had a given number of spells, in which the probability of an episode was high. The expected distribution predicted by their assumptions turned out to be a negative bionomial -- i.e. it was the same as that predicted by Greenwood and Yule's heterogeneous Poisson model.

The fruitfulness of the Eaton-Fortin study is that (unlike the original Greenwood-Yule study) it allows for variations in "proneness", while still making it possible to predict, from a fairly simple set of assumptions, a distribution of incidents very like that which is in fact observed in numbers of victimization surveys. One further refinement is necessary, however. Eaton and Fortin (like many other researchers working on analogous problems) operationally defined their

schizophrenic subjects as being either "in a state" or "not in a state", i.e., on an all-or-nothing basis. An analogy would suggest that persons, etc., either were or were not at a given degree of risk of victimization. This may be a necessary first approximation; but it is an obvious oversimilification, and it is not necessary to make such an assumption in order to apply a reasonably straightforward probability model of this kind. On the contrary, we may assume that (1) there are different degrees of "proneness" in the population; and that (2) an individual's proneness or risk of victimization may vary, for example according to variations in his lifestyle or personal characteristics. Thus, we can still use a fairly simple and realistic model resting on the assumption of variation in risk, changes in individuals' probabilities of risk, and chance variation given a certain probability of risk, to describe and begin to explain multiple victimization. Any realistic account of the observed distribution of victimization needs to recognize that it is, at least in part, a matter of chance (or, perhaps, "bad luck") from the victim's point of view; some high-proneness groups or persons may be non-victims in a particular time period, whereas some low-proneness groups or persons may still be mutliple victims.

The Greenwood-Yule and Eaton-Fortin studies assumed that "proneness" (or its analogues) were distributed in the population according to a particular probability model, viz. the negative binomial. That too is a convenient first approximation; but it too is only a first step in trying to estimate those variations empirically. Which groups of people, activities, circumstances, social situations, times of day, week or year, regions of the country, or whatever, display higher-than-average (or lower-than-average) rates or risks of victimization? The next step in the kind of analysis I am suggesting, in other words, involves trying to identify concomitants -- even, hopefully, causes -- of variation in proneness or the risk of victimization. In the survey which my colleagues and I carried out in London some years ago, we made a not-very-successful attempt to do this empirically, following a method originally suggested by Coleman (1964:379). Briefly, this involved splitting our sample according to various attributes and/or combinations of attributes -- age, race, sex, expressed attitudes, area of residence, and the like -- in an effort to find sets of sub-groups for whom it was true that (1) sample mean rates of victimization were significantly different, and (2) sub-group mean rates and variances were approximately equal (which is a necessary, though not of course sufficient, condition for the observed sub-group distributions being representable as the results of simple Poisson processes).

This attempt was unsuccessful, in the sense that, no matter how the sample was sliced, there was inevitably at least one sub-group thus identified, for which the variance in victimization was much

greater than would have allowed the conclusion that that variance was due to random processes. Moreover, those sub-groups were usually ones of which no reasonable explanation was readily apparent. (See Sparks, Genn and Dodd, 1977:93; the same approach was tried by Aromaa (1973), using Finnish victimization data, with no more success.) It may be thought surprising that we should have ever thought that such an "empirical" method would ever have succeeded in separating sub-groups which had different "pronenesses"; why should we be able to do this, purely on the basis of simple combinations of demographic attributes, expressed attitudes and so on? The criticism seems to me to have some force. But it is also true that few other attempts have yet been made, to examine variation in victimization rates in this way; where large samples are available (as is the case with the National Crime Survey city-level and national household panel data sets) patterns of mean rates of victimization and their variances can be estimated with much more precision than was possible for either the London or the Finnish samples. It is unfortunately true that there are not enough independent variables in the NCS data to permit a detailed examination of this matter (see Penick and Owens, 1976:95-99 for a discussion of this point). But there are more data (e.g., control-card data) than have yet been examined from this point of view; and in the next section of this paper I shall list some concepts which might guide such an examination, and permit us at least to make a start at assessing the determinants of variation in "proneness" to victimization as I have defined that term here.

Before turning to that task, however, I wish to refer briefly to two further modifications of Poisson-type processes which may apply to criminal victimization, and which may under certain circumstances help to explain the observed distribution of multiple victims. First, it is conceivable -- even likely -- that there is a proportion of the population for whom (because they take special precautions against crime, or for some other reason) the probability of becoming a victim of crime within any given time period is effectively zero. Let us say that this group is "immune" to victimization; and let us then assume that victimization in the rest of the population is distributed according to a simple Poisson process (or a Greenwood-Yule heterogeneous one). In order to fit such a model it is necessary to make some assumption either about the size of the "immune" group, or about the transition rates for the non-"immune" cases; good data which would permit either estimate are not now available, so far as I know. (See Sparks, Genn and Dodd, 1977:94-95, for a discussion.)

A second, related possibility is that the population is composed of a number of sub-groups with different Poisson transition rates, but that for some of those sub-groups those rates are decreasing

over time, as a result of prior victimizations. In other words, we suppose that for some members of the population, the experience of victimization leads them to modify their behavior, take precautions against future victimization, etc., so that with each successive victimization, their probability of being a victim in future time periods decreases until they are "immune" (i.e., until they have a proneness of zero). It should be obvious that attempting to identify such groups, and to estimate not only their "basic" pronenesses but the successive decrements to those pronenesses given past victimization, is something far removed from our capabilities at the present time. The general concept of a reduction of sub-group proneness as a result of actions taken in consequence of prior victimization, however, is an extremely important one -- as is the concept of "immunity" discussed above.

SOME THEORY ABOUT MULTIPLE VICTIMIZATION

If the general notions of heterogeneity, immunity and so forth, are accepted as reasonable, the task of explaining the existence and distribution of multiple victimization will be simplified, though not accomplished. Why do people possess certain degrees of "proneness" at particular times? Invoking the gamma distribution does not provide a very satisfactory answer to this question.

Evidently the answer has to be sought in some attributes of people themselves -- their social, psychological, economic, cultural, and spatio-temporal properties, for example. Two accounts of the connections between those properties, and proneness to victimization, have recently appeared. The Panel for the Evaluation of Crime Surveys (Penick and Owens, 1976:92-9) conceived of those connections in terms of "vulnerability" and "risk"; more recently, Hindelang, Gottfredson and Garofalo (1978:250-72) have proposed a theoretical model based on "lifestyle", which they hopythesize to affect victimization primarily (though by no means entirely) through variation in exposure to risk. While not disagreeing with either of these accounts, I with to suggest that the matter is somewhat more complex than either makes it seem;[7] it seems to me that there are (at least) six different ways in which the actions, attributes or social situations of victims may help to explain variations in victimization rates.

(1) Precipitation. To begin with, as Wolfgang (1958) pointed out, a victim may act in such a way as to precipitate -- or at least strongly encourage -- the offender's behavior. Typcially but not necessarily, in such cases the victim's words or actions arouse the offender's emotions (anger, fear, feelings of shame), and the offender acts under the influence of that emotion; as the courts have long recognized (at least in cases of homicide) such actions may be less than fully "voluntary". It is important to emphasize, however,

that the concept of precipitation sketched here marks a causal distinction, and not just a legal or moral one (though the two are related). A victim who precipitates an offender's action (in my sense of that term) does or says something which works on the emotions (what used to be called the "passions") of the offender, to such an extent that -- as we say -- he makes the offender act as he does. It may well be that this kind of causation is in fact extremely rare; that does not show that it is impossible (Compare making someone jump by suddenly shouting "Boo!" at them from behind, and getting them to jump by saying "I'll give you $100 if you jump.")

(2) Facilitation. Second, even if the victim does not take any active part in the crime, he may nonetheless facilitate its commission -- by deliberately, recklessly or negligently placing himself at special risk. The group of "temptation-opportunity" situations identified by Normandeau (1968) belongs in this category. Thus, persons who leave property in unlocked cars may, in some places, substantially increase the risk that that property will be stolen; persons who cash checks without asking for identification may increase the risk of accepting bogus checks; persons who sign contracts without reading the fine print run the risk of being ripped off by bogus repairmen. In general, anyone who fails to take precautions against crime which would be regarded as reasonable in the circumstances may be said to have facilitated a crime committed against him in those circumstances. Facilitation, in other words, involves the creation of special risks; and (unlike precipitation) it need not involve a bilateral transaction with the offender. It is true that facilitation, thus defined, is both context-dependent and culture-dependent. It may be reasonable to leave your house unlocked in a rural area, where burglary rates are (and are known to be) very low; it might be tantamount to an invitation to theft, in certain inner-city areas. Facilitation thus needs to be seen against the background of standards generally accepted in the group, and the situation, in question. Such standards may of course be very vague; but that is not an argument against the concept of facilitation.

(3) Vulnerability. Next, it may be that some persons, because of their attributes or usual behavior, or their place in a social system, are very vulnerable to crime, in the sense of being abnormally susceptible to it; this implies that they are less than normally capable of preventing such crimes being committed against them. Several of the "general categories of victims" mentioned by von Hentig (1948) were clearly thought by him to be vulnerable in this sense. Thus, the very young and the elderly are physically less able to resist violent attack, as are (some) adult females; the mentally defective, immigrants and country bumpkins are specially vulnerable to deception and fraud.

Note that this is a different sense of the expression "vulnerability" than that used by the National Academy Panel in its recent report (Penick and Owens, 1976:94-97). The Panel distinguished between what it called ecological vulnerability (e.g., living in a high-crime area); status vulnerability arising (how was not stated) from such attributes as sex, race, occupation or social class; and role vulnerability, arising from relationships from which the individual cannot readily withdraw (e.g., marriage, being a tenant). This use of the concept seems too broad, and fails to specify how particular roles, statuses or environments lead to higher risk of victimization. Indeed, the Panel's use of the term "vulnerability" seems at times equivalent to the notion of high risk of victimization, i.e., what I have here called "pronesess". In my sense of the term, marriage (e.g.) would not cause vulnerability, unless of course the spouse had a high propensity to commit crime against his or her partner. Other instances of vulnerability in my use of the term would include being physically frail, visibly intoxicated, or blind: these may normally carry a higher risk of victimization, because they deprive individuals of the normal ability to prevent crimes being committed against them. What distinguishes vulnerability from facilitation (as defined above) is that vulnerability does not involve any deviation from standards of due care; the victim or potential victim who is vulnerable need do nothing to create a special risk, i.e., a greater risk than that possessed by those who share his attributes.[8]

(4) Opportunity. Opportunity is of course a logically necessary condition for crime. In order to be a victim of car theft, it is necessary to have a car; and a man who never goes out of his house will never be robbed in the street. (See Sparks, 1980a, for a further discussion.) The importance of opportunity is a sure-fire method of crime prevention. Earlier I defined facilitation as the creation of a special risk; for example, cashing checks without requiring identification can be said to facilitate check fraud. But it can be seen that an opportunity variable -- in this case, the practice of using checks -- is required before such frauds can be committed, even if the victim does nothing to facilitate the fraud in a particular case. Similarly, there is a distinction between conditions creating opportunity, and conditions creating vulnerability (as defined above): a person living in an unprotected house in a neighborhood full of theives may be vulnerable to theft, but there will be no opportunity for theft if he has nothing to steal.

It appears to me that the central propositions of the theory of personal victimization advanced by Hindelang, Gottfredson and Garofalo (1978:250-66) are in fact propositions about opportunity. Thus, their Proposition 1 asserts that the probability of suffering a personal victimization is directly (i.e., positively) related to the amount of time that a person spends in public places, especially

at night; this amount of time is said to turn (Proposition 2) to depend on "lifestyle". Surely that is just a generalization of a set of statements to the effect that a man who never goes out of his house will never get robbed in the street?

Similarly, their Proposition 6 asserts that the probability of personal victimization, particularly theft, is directly related to the amount of time that an individual spends among non-family members -- the assumption being, presumably, that family members do not often steal from one another. This too relates to opportunity -- some sorts of personal theft require propinquity -- though we should note that a person who was forced (e.g., because of his employment) to spend a disproportionate amount of time in public places might on that account be said to be vulnerable to personal theft (in my sense of that term, which is approximately equivalent to Hindelang, Gottfredson and Garofalo's term "vincible". This shows the borderline between my two concepts, though it does not, I think, show that they overlap.)

(5) Attractiveness. It may seem too obvious to need saying, but it is plain that some targets are more attractive, from an intending criminal's point of view, than others. Thus, persons who look affluent will seem like better prospects for robbery than persons who look impoverished; expensive houses full of durable consumer goods are a better bet, from the burglar's point of view, than tenements in a slum; and we may presume that extreme ugliness, old age and halitosis are (ceteris paribus) disincentives to certain sorts of sexual assault. "Attractiveness" is, of course, very much in the eye of the beholder; it may be that the victim makes every attempt to hide his or her attractiveness, though this may be to no avail. Thus, rich women may remove their jewelry when traveling to and from parties; that might make them less attractive to robbers though it does not remove the opportunity for robbery. Similarly, political bag-men, narcotics dealers and those too poor to have bank accounts, are typically forced to deal in cash; they do not intentionally or negligently bring about their attractiveness to robbers; they are simply stuck with it. Moreover, there are some varieties of attractiveness that cannot (logically) be concealed. How do you make, e.g., a Lamborghini less attractive to a potential car thief, without making it look less like a Lamborghini? (Of course you can make it look like a less attractive Lamborghini, e.g., by letting it get very dirty or painting it a hideous shade of chartreuse. But it won't do, merely to take off the little metal plates that say "Lamborghini" and replace them will little metal plates reading "dirty old Ford"; nobody is going to be taken in by that. Compare the practice of putting home-made labels reading "Gucci", "Halston", etc., on merchandise of less classy pedigree.)

(6) Impunity. Finally, there are certain persons who have higher-than-average proneness to victimization, not because they conduce to crime or make it specially tempting, but because they make it easy to get away with. I do not include in this category a failure to protect person or property through dead-bolt locks, cans of Mace, or whatnot. But there are some persons selected as victims precisely because it is believed that they have limited access to the usual machinery of social control. Thus homosexuals are said to be frequent victims of blackmail and extortion, since they are thought to be reluctant to notify the police; similarly, criminals, ex-criminals, neighborhood paranoiacs, and members of minority groups may be chosen as victims, because they are thought to be unable or unwilling to call the police.

Here, then, are six ways in which it may happen that some persons have higher proneness to criminal victimization than others. There may well be other ways in which victims of crime play an important part in causing their own victimization, though I think that these six are likely to be quantitatively the most important. They are, I believe, analytically distinct. But they are not mutually exclusive; and there may well be correlations and interactions between them, either for particular kinds of persons or particular kinds of crime. Furthermore, while I have so far treated the six concepts as applying to persons, it may be reasonable to treat them as relating to particular places, social situations, etc. Thus, dark alleys, basements and elevators in public housing developments and late-night subway trains may make persons vulnerable; schoolyards, bars and sports arenas may lead to precipitation; prisons, railway stations and crowded department stores may facilitate crime to the extent that they make it difficult or impossible for people to take reasonable precautions against it; brothels, illegal gambling dens and narcotics transactions may offer high impunity to would-be offenders.

We may say, then, that proneness is a function of the six concepts just listed; those concepts in turn depend on the social and personal characteristics of different groups in the population -- e.g., their "lifestyles". A change in a person's attributes or usual behavior would thus alter the extent to which he facilitated, attracted, was vulnerable, etc., to crime, and would thus alter his proneness to that type of crime. Following the argument in the preceding section of this paper, the probability that that person would actually be victimized would be a function of his proneness, but also of a "random" element that did not depend at all on the attributes or social situation of the victim. Given sufficient information about the attributes and behavior of a population, it would in principle be possible to calculate their "net proneness" to criminal victimization, i.e., the probability of victimization in a

given time period t; that would permit us to calculate an expected level of victimization, around which (if we have done our calculations correctly) there should merely be random stochastic variation. Then, suppose that the relevant characteristics of the population were to change (e.g., people go out less often, barricade themselves behind dozens of locks, get divorced, give away all their money, quit dealing cocaine); their proneness, and thus the expected rate of victimization in the population, should decrease accordingly.

The operational definition of my six concepts, and their application to fact-situations to make concrete predictions, may of course be difficult in some cases; on balance, however, I do not think it will usually be any more difficult than operational definition anywhere else in social research. (For further discussion, and some examples, see Sparks, 1980b; Hindelang, Gottfredson and Garofalo, 1978:250-66.) There are, however, two issues which may be problematic, in doing the kind of research sketched here in the special context of multiple victimization (where, as I have argued, the process discussed here may be more easily seen). I discuss these issues briefly in the next section.

FUTURE RESEARCH ON MULTIPLE VICTIMS

An important contribution of the research done in the name of "victimology" is that it has not, by and large, relied on large-scale social surveys as a research technique. Such surveys will of course continue to be an important source of information about victimization in general, and multiple victimization in particular; but they have distinct limitations, especially where multiple victimization is concerned. The first of these relates to sampling; the second to data collection.

Victimization is a relatively rare event, in the American population; multiple -- chronic, persistent -- victimization is even rarer. Representative samples of the general population are thus unlikely to produce sufficient cases of multiple victimization for study, except at inordinate cost. It would of course be possible to carry out conventional victimization surveys in high-crime areas, where the proportion of victims (and multiple victims) can reasonably be expected to be high; alternatively, and perhaps preferably in the present state of our knowledge, samples could be drawn from persons whose victimization has on some occasion come to the attention of the police or other social agencies (e.g., hospitals).

However such cases may be identified, effective research on multiple victimization will require detailed information on the social and personal contexts in which that victimization took place; and this almost certainly cannot be obtained, at present, using

interviewing techniques appropriate to general-population surveys like the NCS. I say "at present", because it may be that in time sufficient indicators of the determinants of proneness can economically be obtained in relatively short -- say, half-hour -- structured interviews. What seems needed at the moment, however, is less formal, more detailed interviewing -- of the kind used (in a very different context) by Toch (1969, 1975), for example. Such interviews would seek to embed victimizations in the life-situations of the victims, so as to try to answer questions like the following. Did the victimizations occur because the victim in some way facilitated them? Were they related to a vulnerability arising in turn out of a role-relationship (e.g., marriage or a drunken spouse) that persisted over time? Did victimizations cease after the victim took steps to reduce the opportunity for victimization (and if so, what were those steps)? Was there an element of precipitation -- at least so far as can be judged by accounts given by "victims" -- in respect of personal crimes? Was the victim limited in his or her access to law enforcement or social control -- or at least was it probably believed that this was so? Did the victim's behavior -- e.g., carrying large sums of cash to the bank -- make him an especially attractive target? To what extent were those persons who might attract crime also able to take steps to limit the opportunity for it -- or, conversely, to what extent did they facilitate it by failing to take precautions? If so, what was the result?

The outcome variable -- criminal victimization -- may take various forms; this itself is a matter in need of much further detailed investigation. How many of those whom we call "multiple victims" are victims of different types of crime (so that pronenesses are correlated)? What are the typical time intervals between victimizations, for high-proneness groups. To what extent are the incidents now called "series" victimizations (in the NCS and other victimization surveys) incidents involving the same offender or group of offenders (e.g., a landlord, or a particular group of vandalizing neighborhood children)? To what extent are some cases of multiple victimization best understood, not as discrete incidents, but as conintuing states or conditions (cf. the boils of Job). It may be, for instance, that a housewife reports frequent beatings by her spouse, but that the more important element is not this or that blow on the head, but the continuing state of terror, shame, etc., which she must endure. To what extent, after one or more incidents of victimization, do people take steps which would reduce their proneness to that type of crime? To what extent can they do so? Why are some people living in high-crime areas not victims -- if indeed this is the case? Do victims who have been dissatisfied with the police response fail to call the police in future -- thus increasing the impunity with which offenders can victimize them again?

This is but a small sample of the questions to which we now need answers. It is a hypothesis, of course, that the answers to those questions will be the same in the case of multiple victims, and of "one-time" victims -- however those terms may be defined. Whether or not this is so, we need to begin to try to see criminal victimization in its social and personal context, and to relate incidents involving crime to the rest of the victims' lives and life-situations, so far as this can be done. Of course there may always be some persons for whom victimization -- including multiple victimization -- is a matter of "chance", in the sense of being absolutely unrelated to their attributes or behavior. But that too is a hypothesis, to be investigated in the same way as the others I have listed in this paper.

NOTES

[1]It is misleading since the expression "multiple victimization" is also used sometimes to refer to (a) cases in which there is more than one victim in a single incident, and (b) cases in which a single victim suffers more than one crime (e.g., is raped, robbed, and has her car stolen). I neglect both of these complications in this paper.

[2]In the NCS, series victimizations are defined as three or more similar incidents that occur to the respondent during the reference period, for which the respondent cannot recall details of the individual events. The season of occurrence is asked; an estimate of the total number of incidents in the series is made; and details are obtained (where possible) on the last of the incidents. The "similarity" of the incidents is established because they are mentioned in response to a particular screen question.

[3]In particular: though multiple victims are a minority of all victims, they account for a disproportionate amount of all incidents captured by most surveys, and thus provide a disporportionate amount of information about incidents in general. See Sparks (1980b) for a further discussion.

[4]Portions of this section and the following one are adapted from my forthcoming NIMH monograph on Studying the Victims of Crime (Sparks, 1980b).

[5]In most applications of such models, it is assumed that the occurrence of one event increases the rate parameter for the entire group; in the case of victimization, this assumes that the rate parameter for each individual in the group increases, regardless of his pervious xperience. This assumption can be avoided in more complex models, however. For some discussion see Fienberg (1977); Singer and Spilerman (1974).

[6]Though as they remarked, "The choice of skew curves is arbitrary". Greenwood and Yule also derive expected values on the assumption that the underlying proneness is normally distributed; this seems seldom likely to be the case where phenomena like crime are concerned, however.

[7]For an earlier and even more oversimplified account, see Sparks, Genn and Dodd, 1977:97-106.

[8]Of course the victim or potential victim may have done something at some earlier time, which leads to their subsequent vulnerability. For example, they may have married an alcoholic with a history of violence when drunk. But this would scarcely be regarded as facilitation in my sense of that term, unless the person knew of their spouse's violent propensities, or -- perhaps -- voluntarily stayed within the marital home after the violence became manifest.

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METHODOLOGICAL PROBLEMS IN VICTIM SURVEYS AND THEIR IMPLICATIONS FOR RESEARCH IN VICTIMOLOGY

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Introduction

The purpose of this paper is to examine several of the more serious methodological problems in victimization surveying with particular attention to the implications of certain measurement problems for basic research in victimology. A considerable portion of the paper deals with three aspects of measurement error: the amount of error contained in survey-generated estimates of victimization, the net direction of that error, and the correlates of error. Errors in survey data concerning the identification of persons as victims, rather than non-victims, will be examined as will errors in victim recollection of the details of the crime event.

Overview of the Major Methodological Problems

Most of the methodological problems in victimization surveying--as in any kind of survey approach regardless of the specific topic under consideration--fall into one of three categories: problems of sampling, problems in measurement, and problems of inference (e.g., research design).

A fundamental methodological problem in victimization research is that surveys of the general population are not very "productive": crime is a relatively rare event--especially serious personal crime--and it requires samples of considerable size to yield enough victimization incidents of any particular type to permit detailed and meaningful study. Alternative methods of sampling (such as beginning with known victims from police files or from victim "programs" of some type) are more efficient in generating victims, but suffer from other kinds of problems. In particular, these samples contain only known victims--those who reported their victimization to the authorities or the "program." The lack of representativeness of such victims--vis a vis the general population of victims--is further increased by difficulties in locating these victims for the purpose of conducting the survey interview.[1] Research results based on these samples may not be generalizable to the full population of victims.

Another fundamental methodological problem with surveys of victims is that researchers often attempt to develop explanatory or predictive models (or they seek to test propositions derived from

causal theories) utilizing data from a single-time-point survey rather than a panel design. The designation of certain variables as independent or as dependent may be quite arbitrary and the true direction of causality impossible to ascertain. This is a particularly acute problem for studies in which victimization is the dependent variable and the respondent's attitudes or behaviors are used as explanatory variables. The behaviors and attitudes are measured at the current point in time, whereas the victimization--if there was one--occurred prior to the interview day. When victimization experiences are the independent variables, however, the problem is more tractable.

The third broad area of methodological problems--and one which is the central focus of this paper--concerns the amount of variance in the victimization variable that is "true" variance and the amount that is "error." Whether the error is produced by a lack of reliability or by a lack of validity is not particularly important; what is important is that measurement error can influence the conclusions drawn from research studies, and unless the investigator is aware of the nature of the error and its implications, erroneous inferences can occur.

Implications of Measurement Error

The implication of error for the research depends on whether it is random or directional and whether it is correlated or uncorrelated with other variables of interest to the investigator. The primary impact of random error (that is, error which is not correlated with other variables of interest to the investigator and which has a mean or zero) is that it reduces the likelihood of finding significant differences between variables when, in fact, such differences exist.

In a similar way, it reduces the strength of measures of association such as the correlation coefficient, regression coefficient, non-parametric measures of association (such as gamma, sommer's d, lambda, etc.), and other similar statistics. For example, the maximum correlation coefficient that can be obtained between two variables is estimated to be the square root of the produce of the no-error variance (reliability) of the variables:[2]

$$r_{max_{ab}} = \sqrt{(rel_a)\ (rel_b)}$$

The principle is quite straighforward: measures of association are based on the extent to which one variable can explain the

variance in another. If part of the variance is random error, then, by definition, this portion of the variance cannot be explained by any other variable. Thus, the maximum variance available to covary with some other variable is reduced. The practical effect of this is that when the amount of error is high, even though randomly distributed, the researcher's measures of association and tests of significance are overly conservative and are biased toward finding no relationships even if they exist.[3]

A second type of problem pertains to error which is directional--that is, the mean of the error is either positive or negative. If this error is not correlated with other variables, the major implication is that the investigator's description of the concept measured by the variable will be distorted. For example, there is evidence that the amount of loss estimated in victimization surveys may be exaggerated. The mean of the error, then, would be positive, and one of the implications of the error is an overestimate in the amount that victim compensation programs would cost.

Correlated error is of particular concern to researchers who are examining relationships among variables. There are two kinds of correlated error that should be distinguished. First, the absolute amount of error in a variable can be correlated with other variables of interest to the investigator. For example, it is possible that certain types of victims make more errors in the recall of their victimization experience than do other types of victims. Consequently, the amount of error differs, and the investigator is likely to find that relationships which hold for one type of victim may not hold for the other. Although this phenomenon could be produced by "real" differences, it is also produced by different validity of the data for different types of victims. Other practical problems are introduced when the absolute amount of error is correlated with other variables. For example, attempts to replicate results or to find consistent results in several different data sets may be thwarted because of different amounts of error in the data being used. Attempts to demonstrate consistent patterns of relationships may be confounded for the same reason.

A second--and perhaps even more troublesome--type of correlated error exists when the direction of error in one variable is related to another variable being used by the researcher. Suppose, for example, that the problem of under-reporting of victimization is related to another variable being used by the researcher. Suppose, for example, that the problem of under-reporting of victimization is related to age in such a way that older persons tend to forget incidents more than younger victims do. The result would be that

the true relationship between age and frequency of victimization is confounded with the relationship between age and memory decay.

IDENTIFICATION OF VICTIMS IN GENERAL POPULATION SURVEYS

Of all the methodological problems confronted by the field of victimology, none is more critical than a proper determination of who has been (and who has not been) a victim of crime.

Even assuming that the investigator can settle such issues as which kinds of behaviors or events constitute "victimization," there still are major problems to be overcome in developing adequate measures. The problems of "forgetting" and "telescoping" have been recognized for years as major contributors to the misspecification of victims as nonvictims (and vice versa), but the enormous difficulties in studying these problems have generally thwarted efforts to develop estimates of validity for the categorization of persons as victims or nonvictims.[4] If it were possible to obtain a "true" measure of victimization, then the data from surveys (and from police records) could be compared directly to the "true" measure and the extent of error could be determined. Figure 1 displays different kinds of misspecification problems that occur in survey data (and, for comparison purposes, in police data).

In the first 2x2 table, the cases falling on the main diagonal (cells a and c) have been correctly classified, and those on the off-diagonal are incorrect. The sources of error for the incorrect categorization are shown in Figure 1. In the lower part of the figure, the 2x2 table shows the sources or error in police estimates. Again, cases falling in the main diagonal are correctly categorized, whereas those in the off-diagonal are incorrect.

In addition to the types of error shown in Figure 1, there are some victims who do not report the victimization either to the police or to the interviewer. These individuals would be categorized incorrectly in both the police and survey data.

Table 1 contains information from four reverse records checks, one forward records check, and other methodological studies that can be used to make very rough judgments about the magnitude of error in the victimization surveys and in the police data. It should be emphasized that the amount of error in survey data depends, in part, on the survey methodology--the quality of interviewing, questioning procedures, length of reference period, sampling frame, and so on. Thus, the four reverse records checks are not directly comparable to one another, and the forward records check is not comparable to any of the reverse records checks.[5] Nevertheless, the figures provide rough "ballpark" ideas of the amount of error

TRUE CATEGORIZATION		
	Victim in Reference Period	Not a Victim in Reference Period
Survey Estimate victim in reference period	(a)	1. external forward telescoping 2. exaggeration or lying
not a victim in reference period	3. forgetting, lying underestimate of situation 4. external backward telescoping	(c)

TRUE CATEGORIZATION		
	Victim in Reference Period	Not a Victim in Reference Period
Police Estimate victim in reference period	(a)	5. exaggeration of situation, lying
not a victim in reference period	6. non-reporting by victim 7. non-recording by police	(c)

FIGURE 1

TYPES OF ERRORS IN SURVEY AND POLICE DATA

TABLE 1

ESTIMATES OF THE PERCENT OF ERROR IN SURVEY AND POLICE VICTIMIZATION DATA

Type of Error	Portland FRC 6 mo.	Portland FRC 12 mo.	London RRC 6 mo.	London RRC 12 mo.	San Jose RRC 6 mo.	San Jose RRC 12 mo.	Washington RRC 6 mo.	Washington RRC 12 mo.	Baltimore RRC 6 mo.	NCS Experiment 6 mo.
Survey										
A. Non-victim identified as victim										
1. External forward telescoping	18%	11%		(>4%)	13%	-	-	(>4%)	-	24%
2. Exaggeration or lying		(32%) (3)								
B. Victim identified as non-victim										
3. Forgetting, understatement, lying to interviewer	-	-	4%	8%	32%	33%	18%	30%	33%	
4. External backward telescoping	6%	3%		3%	5%					
Police										
A. Non-victim identified as victim										
5. Exaggeration or lying	-	-								
B. Victim identified as non-victim										
6. Non-reporting		51%								60-70%
6a. Victim claimed to have reported, but did not		(32%) (3)								
7. Non-recording		(32%) (3)								

we deal with in studies using victimization as an independent or dependent variable.

External Forward Telescoping

External forward telescoping occurs when respondents pull an event forward in time placing it in the reference period when, in fact, it occurred prior to the reference period. Estimates of the magnitude of external forward telescoping (measured as the proportion of persons categorized as victims who actuallly were victimized prior to the reference period in unbounded surveys) range upward to 25 percent (see Table 1) for short reference periods, such as six months, and up to 11 percent for a 12-month reference period.[6]

Forgetting

The reverse records checks show that the proportion who fail to recall a known crime incident to the interviewer has ranged from a low of four percent (in Sparks' London study for the six-month time period) to a high of 33 percent (in the Baltimore study). Sparks reports that only eight percent of his respondents failed to recall the incident during the 12-month reference period. This remarkably better recall rate--in comparison with U.S. efforts--probably is due to the improved questioning procedures used in the London study and in the extensive efforts undertaken to assist respondents in remembering key dates during the previous year.

External Backward Telescoping

A third source of error in victim survey estimates is produced by external backward telescoping--a situation in which the respondent telescopes the incident backward out of the reference period. Using the procedures currently followed by almost all victimization survey work, these incidents would not be counted and, in some surveys, would not even be entered with the computerized data. Although these persons are victims, the usual assumption is that the investigator wishes to identify the persons who have been victims within a particular time frame.

The Portland Forward Records Check and the London Reverse Records Check both showed that three percent of the incidents which actually occurred during the 12-month reference period were telescoped backward out of it. The Portland estimate for external backward telescoping in a six-month reference period was six percent, and the San Jose data show a five percent external backward telescoping effect for a six month-recall period.

Non-Reporting to the Police.

Information in the lower portion of Table 1 shows that the major source of error in police data involves an undercounting of true victims attributable to non-reporting of incidents by the victim. The extent of non-reporting is 60-70 percent--according to the National Crime Survey.

The Survey--Police "Gap"

Estimates are given in Table 1 for three other sources of error--all of which are related to the commonly found "gap" between survey and police estimates of crime.[7] The major contributor to the difference between survey and police estimates is non-reporting, as mentioned above, but even when one examines only the incidents that survey respondents said were reported to the police, the survey data often show a higher victimization rate than police records.

In the Portland Forward Records Check, 212 out of the original 972 incidents (22 percent) were found in the police records. Of the 760 which could not be found, 65 percent were not found due to non-reporting of the incident by the respondent. Of those which the respondent said were reported to the police, and for which a search was undertaken, 53 percent were located. And, it was estimated that an additional 15 percent had not been located due to methodological problems or due to the importance of protecting victim name confidentiality.

Thus approximately 68 percent of the victims identified in the survey were accounted for, leaving 32 percent who apparently were miscategorized either by the survey (which said they were victims) or by the police data (which said they were not). There are three sources or error that could account for the estimated 32 percent that are missing: (1) respondent exaggeration of a situation--or definition of it--so that it qualifies as a "crime" when legally it would not qualify; or outright fabrication of incidents; (2) respondent error in telling the interviewer that the incident was reported when, in fact, it was not; (3) non-recording of the incident by the police because it did not meet qualifications of an offense or for other reasons. There is no way to know how much of the roughly estimated error (32 percent) is attributable to each of these sources.

Estimating the Error

Unfortunately, there is no straightforward way to proceed from the data shown in Table 1 to develop estimates of the amount of error one should expect to be contained in survey-generated identification of victims and non-victims. One can, however, construct hypothetical

populations with known distribution of victims and non-victims. By applying various combinations of the error estimates to this distribution, and by choosing among the various assumptions, one can generate estimates of the validity of the data. Corresponding estimates of the maximum strength of association one would expect when using the victimization variable can be generated.

For example, consider a survey (unbounded, 12-month recall period, utilizing questioning procedures similar to San Jose and NCS) which identifies 30 percent of the sample as victims and 70 percent as non-victims.[8] Disregarding all other sources of error for now, what proportion in each category have been misspecified due to the problems shown in Table 1? Of the 30 percent identified as victims, one might presume that 11 percent of the victims forward telescoped the incident into the recall period, and a similar proportion exaggerated or lied to the interviewer (see Table 2). Thus, 22 percent of the 30 percent (7 percent) are incorrectly identified as victims and should be shifted to the non-victim category. The estimate of "true victims" could be obtained by assuming a 33 percent forgetting rate (as shown in the San Jose study), and by assuming external backward telescoping for three percent of the "true" victims (as estimated in the Portland and London studies). The survey estimate of victims (minus those mis-identified and shifted to the non-victim category) should be increased to account for these that were "missed." The results of these calculations--shown in Tabel 2--indicate that the survey underestimated victimization (30 percent versus 36 percent) but, overall, 80 percent of the respondents were placed in the correct categories (the main diagonal), and only 20 percent are in the incorrect categories (the off-diagonal). The Index of Inconsistency is .34, the correlation coefficient (which also is phi) is .55, and the maximim correlation coefficient that one could expect to obtain when using this hypothetical variable would be .74 (assuming that the variable contains no other error and that the variables with which it is correlated contain all "true" variance and no "error" variance).[9]

Table 3 contains similar types of estimates for a variety of other conditions and assumptions. It should be emphasized that the calculations in Table 3 are based on estimates of the major types of known measurement error in victimization surveys, but the accuracy of the estimates used to generate the figures in Table 3 are not known. Furthermore, one could choose to make other assumptions, thereby changing the estimates. Thus, the coefficients in the table should be used as very rough indications of the amount of error variance in the data. Before summarizing the implications of these figures, the critical assumptions underlying the particular calculations in Table 3 should be reviewed:

TABLE 2

VALIDITY ESTIMATES FOR HYPOTHETICAL SURVEY DATA

	TRUE CATEGORIZATION				TOTALS	
	Victim		Non-Victim			
Survey Results Victim	(a)	23	(b)	07	(a+b)	30
Non-Victim	(d)	13	(c)	57	(d+c)	70
Totals	(a+d)	36	(b+c)	64		100

Error Estimates:

Cell b--External forward telescoping = 11% of a+b
--Exaggeration or lying = 11% of a+b
} = e_b

Cell d--Forgetting = 33% of a+d
--External backward telescoping = 3% of a+d
} = e_d

True Score Estimates:

Cell b = (a+b) (e_b) = 30 *.22 = .07

Cell a = (a+b) - [(a+b) (e_b)] = .30 - [(.30) (.22)] = .23

Cell a+d = a/(1.0-e_d) = 23/64 = .36

Degree of Fit:

Percentage Agreement = a+c = 80%

Correlation (r) (and phi) = ac-bd/ $\sqrt{(a+b)\ (a+d)\ (d+c)\ (b+c)}$ = .55

Index of Inconsistency = $N\ \frac{(N-(a+c))}{N^2 - [(a+d)^2 = (b+c)^2]}$ = .34

r Max = .74

TABLE 3

COMPARISON OF VALIDITY ESTIMATES UNDER DIFFERENT ASSUMPTIONS AND CONDITIONS[1]

Condition	Relationship to "True" Data: Percent Agreement	Index of Inconsistency	phi(4)	Maximum V Obtainable in Analysis
Survey Data (12-month)				
A. EFT = 11% Exaggeration = 11% Forgetting = 33% EBT = 3%	80%	.34	.55	.74
B. Same, except Forgetting = 8%	90%	.26	.76	.87
Survey Data (6-month)				
C. EFT = 24% Exaggeration = 11% Forgetting = 33% EBT = 6%	59%	.82	.20	.44
D. Same, except Forgetting = 4%	88%	.38	.71	.84
Bounded Survey (6-month)				
E. Exaggeration = 11% Forgetting = 33%	84%	.33	.67	.82
F. Exaggeration = 11% Forgetting = 4%	96%	.10	.90	.95
Police Data				
A. Non-reporting = 70% Non-recording = 10%	60%	.80	.31	.55
B. Non-reporting = 60% Non-recording = 10%	77%	.52	.47	.69
C. Non-reporting = 50% Non-recording = 10%	85%	.40	.57	.76

[1]The coefficients shown in the table are very rough indications of the estimated error in categorization of respondents as victims or non-victims. EFT refers to external forward telescoping; EBT refers to external backward telescoping. For each situation described in the rows of the table, the initial set of estimates uses the highest error figures from Table 1 and the last situation uses the lowest set of error figures from Table 1. The estimates for surveys are based on a 30-70 distribution of victims and non-victims. Police estimates are based on the assumption that 10 percent of the population has reported an offense.

1. It is assumed that the amount of "forgetting" in a 12-month time period is the same as that in a six-month time period for survey procedures such as those used in the U.S. pre-tests and the NCS. (See Table 2, Baltimore and San Jose studies.)

2. It is assumed that the amount of forgetting could be reduced substantially if questioning procedures were improved (the factor which probably accounts for Sparks' much-improved recall rate), but it is assumed that telescoping will not be altered by improved questioning.

3. It is assumed that bounding of interviews with a prior interview completely eliminates external telescoping (forward and backward).

4. It is assumed that the forgetting and telescoping error for reported and unreported offenses are the same. (There are studies, reviewed below, which show that memory bias is more accentuated for incidents that were not reported to the police but the differences are not particularly great and no adjustment has been made in Table 3.)

5. For comparison purposes, it has been assumed that the survey data showed a 30-70 split of victims and non-victims and that the police data showed a 10-90 split.

Readers, of course, are free to make other assumptions, and by utilizing the data in Table 1 would be able to generate other estimates of error in the survey or police data. With these caveats, the implications of the calculations shown in Table 3 include:

1. For unbounded surveys, a 12-month recall period is superior to a six-month recall period in terms of the validity of the data. This is due to the apparent fact that telescoping is more strongly related to the length of the recall period than is forgetting.[10]

2. Surveys using six-month recall periods that are not bounded by a prior interview contain substantially more error than any of the other options, and the maximum correlation coefficient obtainable for these surveys might be as low as .44.

3. Police data in a community that only reports 30 percent of its crimes (and in which there is a 10 percent non-recording rate) is less valid than most of the survey data, but probably is more valid than the six-month unbounded interview which utilizes no special recall devices to minimize forgetting.[11]

4. With the possible exception of surveys using short recall periods and no special memory-recall aides, data produced by surveys using six or 12-month recall periods appear to be within the range of acceptable validity: the correlation coefficients tend to be at .70 or higher, the index of inconsistency is in the .30s, and the maximum obtainable correlation coefficient is .75 or better.

5. Surveys using the procedures adopted by the NCS (bounded, six-month reference period) can be expected to have a high degree of validity.

Amount of Error by Offense

If the error in victimization data were random and uncorrelated with all other variables of interest to the researcher, then its primary impact is an attenuation in the estimates of the strength of association between variables and in the tests of significance. In other words, conclusions are biased toward non-findings.

The errors discussed thus far in the paper, however, are correlated with the type of offense under consideration and, for that reason, introduce several additional problems. In particular, offenses that contain substantial amounts of error (such as assaults) will be more susceptible to unnecessarily conservative conclusions than will offenses which contain less error (such as burglary). Theories of victimization that seem to work for one type of crime may not work for another simply because of differences in the error between the types of offenses.

Table 4 contains estimates of the amount of external forward telescoping, forgetting, and external backward telescoping for burglary, larceny, robbery, assault, and rape. These errors all influence the accuracy of a survey's categorization of persons as victims for these kinds of offenses. In addition, the proportion of these offenses not reported to the police (based on NCS data) is shown in Table 4.

The data show that survey identification of persons whose homes have been burglarized probably is more accurate than identification of any other kinds of offenses. The forgetting rate for burglaries appears to be less than 15 percent; the amount of external forward telescoping is estimated at less than 10 percent (except for the NCS estimate), and the amount of external backward telescoping is five percent or less. Assaults appear to suffer from the greatest amount of error: the forgetting rate is exceptionally high, and the rate of external forward and backward telescoping both are substantial. Data are far less complete on incidences of rape, but it appears that the recall rate for rape is as poor as for assaults, although the

TABLE 4

OFFENSE-SPECIFIC ERROR IN VICTIM IDENTIFICATION

	Burglary	Larceny/ Theft	Robbery	Assault	Rape
1. External Forward Telescoping					
NCS (6 months)	17%	28%	47%	30%	
San Jose (6-months)	6%	17%	22%	16%	0
Portland (6-months)	9%	17%	-	-	-
Portland (12-months)	6%	21%	-	-	-
2. Forgetting					
Washington (12-months)	12%	23%	9%	35%	-
Baltimore (6-months)	14%	25%	24%	64%	-
San Jose (6 months)	5%	22%	24%	49%	53%
San Jose (12-months)	10%	9%	24%	52%	33%
London (12-months)	4%	11%	---------11%-------		
3. External Backward Telescoping					
San Jose (6-months)	5%	4%	10%	6%	0
Portland (6-months)	4%	7%	-	-	-
Portland (12-months)	3%	6%	-	-	-
4. Non-reporting by victim to police (NCS)	52%	73%	47%	53%	47%

telescoping may not be as severe. This could indicate that "forgetting" for the rape incidents is not actual lack of recall but unwillingness to report the incident to the interviewer. Larcenies and theft seem to have about the same amount of error as robberies, and both of these have more error than burglaries but less than assault and rape.

The proportion of incidents reported to the police (according to survey respondents) varies substantially among the different kinds of offenses, with larcenies/thefts being especially underreported. As indicated by the last row of Table 4, police data should be expected to omit about half the incidents of burglary (52 percent), robbery and rape (47 percent), and assault (53 percent), but to omit 73 percent of the larcenies/thefts. Because larcenies are particularly subject to external forward telescoping combined with relatively good recall in the surveys, and because they are not likely to be reported to the police, one can expect survey data to suggest that a much greater proportion of all incidents are larcenies than would be shown in the police data.

The major implications of the information in Table 4 can be summarized as follows:

1. Because of different kinds of errors in the data, survey information will not show the same patterns of offenses as police data. In particular, police data will indicate that a smaller proportion of all incidents are larcenies, whereas survey data will show that a larger proportion are larcenies.

2. The strength of relationships between burglary and other variables should be closer to the true magnitude of the relationship, although still underestimated. The strength of relationships between the other types of crime and other variables of interest would be more seriously underestimated than for burglary.

Other Correlates of Memory Recall Biases

If certain types of victims tend to forward telescope more so than others, then survey data will overestimate the victimization rates of these persons. Likewise, if certain types of victims telescope incidents backward, out of the reference period, to a greater extent than others, then these persons would be underrepresented in the survey data.

In the Portland Forward Records Check, several characteristics of victims were examined in order to determine whether some are more inclined to telescope than others. As shown in Table 5, the age,

TABLE 5

CORRELATES OF FORWARD TELESCOPING
BY CRIME TYPE FOR MATCHED CASES[1]

(Pearson Correlations)

Characteristic	All Crimes (N=203)	Property Crimes (N=181)	Personal Crimes (N=16)
Time between incident and interview	.68**	.70**	.03
Positive attitude toward police	.00	.02	-.31
Age	-.06	-.06	.33
Race (0=black; 1=white)	-.08	.11	##
Sex (0=female; 1=male)	-.10	-.13*	-.21
Education	-.01	.04	-.08
Seriousness	-.11	-.08	.03

*P <.05
**P <.001
Only one black respondent

[1]Positive correlations mean that higher scores on the characteristic are related to forward telescoping; negative correlations mean that lower scores on the characteristic are related to forward telescoping. For example, for all crimes longer time between the incident and the interview is strongly related to forward telescoping.

race, sex, and educational level of the victims were not correlated significantly with the extent of forward telescoping. There were some general tendencies, however, that did not reach statistical significance: more serious crimes tended to be telescoped forward less than trivial incidents, and there is a slight indication that men telescope forward less than women.

The abosolute amount of telescoping (either forward or backward) appears to have weak, but statistically significant, relationships with some characteristics of victims and offenses (see Table 6). More errors (either forward or backward) appear to be made by younger respondents than by older ones, and by women rather than men. And, the information suggests that errors are more likely to be made in reference to trivial incidents than to serious ones.

It should be noted that even though these relationships reach statistical significance, they are not very substantial (e.g., correlations of less than .15 which explain less than three percent of the variance in telescoping). The time lag between the true data of the incident and the interview correlate at .64 with the absolute amount of error. Of considerable interest is the fact that Sparks found only a .14 correlation between the interview/incident time lag and the absolute amount of error in placement of the data. The additional emphasis on accuracy of recall used in his questioning procedures might account for this substantial difference in results of the two studies. (It also is of interest that Sparks did not find correlations between the absolute amount of error in recall of the data and age, race, sex, or other similar variables. This, too, could be produced by differences in questioning procedures if such procedures are most effective on persons who, otherwise, would be most likely to make errors. Thus, the improved surveying technique could not only reduce error, but might result in the error being more evenly distributed across different kinds of respondents.)

Perhaps the most widely-known type of error in the victimization surveys is the relationship between failure to recall incidents of assaultive violence and the relationship of the victim to the offender. The San Jose study showed that incidents in which the victim knew the offender were far less likely to be reported during the interview. It is interesting that the Portland Forward Records Check showed the same pattern of bias for official data: Interview victimizations which involved family members, persons who knew each other, or juveniles were not as likely to be found in the records or, if found, were more likely to have been classified into a reduced crime type (e.g., malicious mischief rather than assault).

Sparks' study is the only one of the reverse records checks that reports whether the tendency not to recall the incident to the

TABLE 6

CORRELATES OF ERROR IN RECALL OF INCIDENT DATE (TELESCOPING) FOR MATCHED CASES[1]

(Pearson Correlations)

Characteristic	All Crimes (N=203)	Property Crimes (N=181)	Personal Crimes (N=16)
Time between incident and interview	.64**	.65**	-.02
Positive attitude toward police	.07	.08	.10
Age	-.12*	-.11	.22
Race (0=black; 1=white)	-.04	-.03	##
Sex (0=female; 1=male)	-.14*	-.16*	-.30
Education	-.04	-.04	-.03
Seriousness	-.12*	-.08	-.02

*P <.05
**P <.001
Only one black respondent

[1]Positive correlations mean that higher scores on the characteristic are related to greater error in recalling the incident date; negative correlations mean that lower scores on the characteristic are related to greater error. For example, for all crimes lower seriousness is related to greater error in recalling the incident date.

interviewer (forgetting) was related to characteristics of the victim. His conclusion was that forgetting was not related to sex, age, race, migration patterns, employment, attitudes, perceptions about crime seriousness, or social class of the victim.

Another technique that has been used to seek out correlates of memory decay (either telescoping or forgetting) is to examine the pattern of recall during the months covered in the reference period. The ususal procedure is to assume that if there were no memory decay, each month in the recall period would contain an equal share of the total incidents recalled in the study. In some studies, the official data have been used to correct for actual trend, but in most instances these corrections have not been needed.

Two studies have examined the relationship between victim characteristics (age, race, sex, and education) and memory decay.[12] Both concluded that there were no significant relationships. A National Crime Survey methodological study found two statistically significant relationships: incidents with weapons were less subject to memory bias than incidents without weapons; and incidents in which the suspect was a stranger were less subject to memory biases. These findings indicate that less salient incidents show a sharper memory fall-off pattern due either to more forward telescoping and/or to more "forgetting" in the distant months.

Several investigations have been undertaken to determine whether incidents that respondents said were not reported to the police are more likely to be forward telescoped and/or forgotten than are incidents which were reported.[13] Although the evidence is not substantial at this time, it appears as if the nonreported incidents are subject to a more extreme pattern of memory bias than are the reported incidents. This means that the unreported incidents either are forward telescoped more than the reported ones, or that they are forgotten easier, or both. If forward telescoping is the primary problem, then (in unbounded surveys) estimates of the proportion of incidents not reported will be inflated. If forgetting is the primary problem, then survey estimates of incidents not reported will be too low. A further implication of different error patterns for reported and nonreported incidents is that error estimates which rely on police data as the "standard" cannot be used without adjustments to estimate the error in survey data.

VICTIM RECOLLECTIONS OF THE VICTIMIZATION EXPERIENCE

The purpose of the previous section was to describe the absolute amount of error, direction of error, and correlates of error in survey-generated data with particular emphasis on the accuracy of determining whether the respondent had been a victim or not. Although correct categorization of persons as victims or non-victims is fundamental to the study of victimology, it also is important to have adequate measures of the details of the victimization.

Thus, the purpose of this section is to present information about the accuracy of victim recall concerning the details of the crime. The amount of error, direction of error, and correlates of error will be examined.

Methodology

A substantial portion of the information in this section was produced by the Portland forward records check of crime victims. A victimization survey of 3,912 respondents in the Portland, Oregon, metropolitan area had been undertaken in the summer of 1974 as part of the evaluation of the LEAA Impact program. In a subsequent LEAA-funded grant, each victimization that had occurred within the jurisdiction of the Portland police department and which the respondent said had been reported to the police was selected from the original survey data and 212 of these 399 victimization incidents were matched with the police record of the same victimization. When a survey and police information differ, it is not possible to know which is "correct" but when police and survey information about a crime are the same, a high degree of convergent validity is indicated for both sets of information.

It should be emphasized that the forward records check was a highly exploratory study and was designed to provide preliminary information about some of the methodological problems in victim surveying. The study is based on a small sample, is confined to a single city, and utilizes information from only one victimization surveying effort. Despite these limitations, it is the only study that has been conducted--at this time--in which intensive and detailed comparisons were made between police and survey reports of the same crime incidents.

Characteristics of the Events

Table 7 contains a breakdown of police and survey information on several details of the events commonly used in classifying crimes or in calculating crime seriousness. Data in the first two columns show the number and proportion of the 212 incidents which, according to

TABLE 7

INFORMATION DIFFERENCES ON DETAILS OF EVENT[1]

	Survey N	Survey %	Police N	Police %	Number Different	Percentage Agreement	Index of Inconsistency	Phi (r)	Maximum Correlation
Offender hit or attacked victim	(10)	5	(11)	5	1	99.5%	.05	.95	.97
Victim was threatened with harm	(12)	6	(15)	7	7	96.7%	.25	.73	.85
Offender had a a weapon	(18)	8	(9)	4	11	94.8%	.64	.61	.78
Physical injury	(10)	5	(12)	6	8	96.2%	.35	.62	.79
Medical attention needed	(4)	2	(2)	1	2	99.0%	.34	.70	.84
Property taken or damaged	(183)	86	(187)	88	8	96.2%	.18	.83	.91
Offender had right to be there	(10)	5	(13)	6	11	94.8%	.45	.50	.71
Offender actually got in	(99)	47	(108)	51	27	87.3%	.25	.75	.87
Evidence of forcible entry	(82)	39	(69)	33	25	88.2%	.27	.75	.87

[1] Data in the first four columns show the frequency (and percent) of events characterized by the informational detail on the left. The percent agreement represents the proportion of all 212 cases which both the survey and the police agreed on whether the characteristic was present or absent (i.e., the proportion in the main diagonal.) The index of inconsistency is a one-way measure of association: $I = N \left(\frac{N - (a+c)}{N^2 - [(a+d)^2 + (b+c)^2]}\right)$ where a and c are the main diagonal and b d are the off-diagonal. Phi, for 2x2 tables, is the same as r (correlation coefficient).

the survey, were characterized by the attribute listed on the left. Similar data for the police report of the incidents is shown in the next two columns. Even if the police and survey data appear to be quite similar in the aggregate, they may not be in agreement as to which specific incidents were or were not characterized by the attribute. Thus, the data in the fifth column ("number different") shows the number of incidents on which the survey and police data differed. (This is the number of cases off the main diagonal in a 2x2 table in which the main diagonal contains the frequency of cases for which the survey and police reports were in perfect agreement.)

The summary statistics are those used previously in Table 3. Percent agreement refers to the proportion of cases which the police and survey information were in agreement concerning the attribute listed on the left. The Index of Inconsistency is an asymmetrical measure of association (calculated here as if the police data are the standard). Phi, which is the same as the correlation coefficient r in 2x2 tables, is shown along with the square root of r which represents the maximum correlation one would expect to obtain with the variable, given the amount of error in it. Technically, phi (and probably the index of inconsistency) are not good estimators when any one of the cells contains less than five cases--which happens frequently in these data.

On the whole, the police and survey are in marked agreement concerning these characteristics except for whether the offender had a weapon and whether the offender "had a right to be there." The survey overestimated weapons and underestimated the number of times the offender had a right to be at the location of the incident.

Crime Seriousness

Two different types of seriousness measures are used to determine whether there is any systematic over or underestimation of seriousness in the survey data, compared with police records of the same events.

The first seriousness scale uses the weighting factors developed by Sellin and Wolfgang (see Appendix A). The second is simply the amount of monetary loss from the crime. As shown in Table 8 the survey data produced slightly higher estimates of crime seriousness than did the police information. The product-moment correlation between the survey and police seriousness scores is .63 indicating moderately good validity although there are considerable case-by-case differences in the seriousness estimates.

Comparisons of survey and police information on amount of loss are shown in Table 9. In every type of comparison, the survey estimates are higher than those provided by the police even though the

TABLE 8

SERIOUSNESS OF OFFENSES[1]

Seriousness Score	FREQUENCY IN CATEGORY Survey N	Survey %	Police N	Police %
0	7	3	7	3
1	18	8	33	16
2	79	37	95	45
3	51	24	39	18
4	35	17	26	12
5	4	2	3	1
6	10	5	4	2
7	5	2	2	1
8 or above	3	1	3	1
$\bar{x}$	2.9		2.5	
s.e	.13		.10	
r = .63				
Index of Inconsistency = .37				
Number of cases with same seriousness score	119			
Percentage of cases scored the same	56			

[1]An explanation of scoring for the seriousness scale is in Appendix A.

TABLE 9

SURVEY AND POLICE ESTIMATES OF LOSS FROM CRIME

Type of Offense	% of Cases with No Loss Indicated		Average Dollar Loss		Average Loss Excluding "No Loss" Category		Median Loss	
	Survey	Police	Survey	Police	Survey	Police	Survey	Police
Burglary	19	21	$548	$412	$680	$522	$300	$155
Larceny	12	14	$126	$96	$143	$112	$100	$75
Auto Theft	10	56	$622	$186	$736	$419	$500	$260
All Incidents	16	21	$412	$319	$488	$357	$120	$75

Burglary:[1] r = .81
Larceny:[1] r = .77
Auto Theft:[1] r = .60
All Cases:[1] r = .82

[1]Correlation coefficients derived from dollar values after the natural log of each value was taken.

correlation coefficients between estimates of loss are quite high.* The implication is that either the survey respondents systematically overestimated the amount of loss or the police underestimated it. In the auto theft category, there were many police reports which contained no value at all for the stolen car, and this greatly inflated the difference between survey and police estimates of loss.

Characteristics of Suspects

Respondents to the survey were asked whether they knew how many persons were involved in the crime, age of the suspects, race, sex, and whether the person(s) was a stranger or was known to the victim. Similar information was obtained from the original police reports for each of the matched incidents. The extent of agreement between the two sources is shown in Tables 10 through 12.

The police and survey data were in agreement on the race of 28 suspects and in agreement on 129 cases in which the race of the suspect was unknown. Although the two sources agreed on 74 percent of the incidents, this figure is inflated by the fact that much of the apparent agreement is in the "unknown" category. If the police information is used as the standard, then the survey is accurate in 50 percent of the cases. And, the proportion agreement is even lower (34 percent) if one calculates the amount of agreement on incidents in which one or the other source claimed to know the race of the victim (that is, the 129 agreed-upon "unknowns" are eliminated).

Additional analysis of the data shown that both black and white victims identify suspects as black when police data contain no information on racial characteristics of the suspects. For white victims, there were twenty cases in which the police did not record any information on race of the suspect. The white victims told the interviewer that twelve of these (60 percent) were white and eight (40 percent) were black. Black and other nonwhite victims provided information on seven cases that the police said involved an unknown suspect and the victims indicated that five of the seven were black rather than white.

Substantial differences between police and survey data also exist for the information on whether the suspected offender is known to the victim or is a stranger (see Table 11). The proportion of cases attributed the same way is 74%. And, if only the cases are

*Because of several very large losses, the data were badly skewed. To correct this problem, the natural log of each value was taken and the transformed values were used in the correlation analysis.

TABLE 10

RACE OF SUSPECT

	POLICE				
	White	Black	Other	Unknown	Totals
SURVEY					
White	15	3	2	8	28
Black	1	13	0	17	31
Other	1	1	0	2	4
Unknown	11	8	1	129	149
TOTALS	28	25	3	156	212

Percent Agreement: 157/212 - 74%
Index of Inconsistency = .64

TABLE 11

OFFENDER KNOWN OR STRANGER

	POLICE			
	Stranger	Known	No Data	Total
SURVEY				
Stranger	25	6	16	47
Known	2	13	9	24
No Data	16	6	119	141
TOTAL	43	25	144	212

Percent Agreement: 157/212 = 74%
Agreement Excluding No Data Category: 38/93 = 41%
Index of Inconsistency = .54

TABLE 12

OTHER CHARACTERISTICS OF SUSPECTS

	Survey	Police
Age of Suspect[1] ($\bar{x}$)	18.2	18.7
Number of Suspects ($\bar{x}$)	1.8	1.6
Percent of all incidents with male identified as suspect	30%	30%

[1]This includes estimated age of youngest and oldest suspects.

used in which one or the other source claimed to know whether the offender was a stranger or not, the agreement drops to 41 percent.

It is widely known that victimization surveys underestimate the proportion of incidents committed by persons known to the victim.[14] This phenomenon could be produced by the greater saliency of stranger-perpetrated incidents and a corresponding inability by victims to remember offenses committed by persons they know. It could be due to victims being reluctant to tell the interviewer about incidents committed by friends, acquaintances, or household members. Another possibility, and the only one which can be examined with the matched incident set, is that victims report the crime to the interviewer but do not provide accurate information concerning the fact that they knew who the offender was. The data in Table 11 do not support this possibility, however. If the police records are correct with regard to whether the suspect is known to the victim or not known, then the survey elicited the correct response in 52 percent of the cases that the police said involved persons known to the victim. The survey elicited the correct response in 58 percent of the cases that police data shown involved a stranger. The differences in survey inaccuracies are not sufficiently great to conclude that victims intentionally fail to tell the interviewer that they were acquainted with the suspect. Again, it should be emphasized that the general lack of agreement between the two sets of data casts doubt on the validity of this information.

The victimization data did not differ much from police records in terms of the average age of suspects, the number of offenders, or the sex of offenders (Table 12). The average age, from both sources of data, was between 18 and 19 years and both indicated that 30 percent of the suspects were known to be male, all but two of the others were unknown. Neither of the females identified in the survey was identified as a male by the police and none of the males were identified as females.

The major conclusion to be drawn is that the survey and police data generally provide very similar aggregate portrayals of the characteristics of offenders even though there is substantial case-by-case disagreement between the two sources, especially on the race of the suspect and the relationship between the suspect and the victim.

Activities of Victims and Police

The victimization survey included questions on whether the victim tried to prevent the crime, whether there were other persons who saw or heard what was happening, how long it took the police to

arrive (if they were notified), and what the police did after they arrived.

Very little is known about the accuracy of victim responses to questions of this type. One could speculate that victims will overreport the amount of effort exerted to prevent the crime in order to provide the interviewer with a more socially accepted response. There are no particular reasons to believe that survey respondents would misstate or misperceive the presence of other persons, but is possible that laymen use somewhat more lenient "rules" in determining who is a witness than the police would. It is quite reasonable to expect victims to overestimate the amount of time required for police officers to arrive at the scene of a crime due to the generally accepted idea that time (subjectively) seems longer in crisis or emergency situations than is actually the case. It also is reasonable to expect that survey data would provide underestimates--compared with police accounts--of the number of activities undertaken by the officers after they arrive. Victims may not be very astute observers of what the police do; they may forget to mention certain types of activities, since the question is open-ended and not designed to jog their memories. On the other hand, the police could overstate their own activities, or they could define certain types of things such as "investigation" differently than the victim. Comparisons of police and survey data on these topics are shown in Tables 13 through 16.

A considerable proportion of the incidents (85 percent) were characterized in the same way by police and survey records concerning whether the victim attempted self-protection, but there was a slight tendency for the survey respondents to overreport their activities (or the police to underreport them). Although the percentage agreement between the two sources of information is high, the index of inconsistency is .63.

A similar pattern of agreement was found concerning the presence or absence of witnesses (Table 14). Most cases did not involve any known witnesses and both sources of data provided similar estimates of the proportion of cases which had and did not have witnesses. There is some disagreement, however, concerning exactly which cases involved witnesses. Of the 41 incidents that police records show involved witnesses, 24 (59 percent) were attributed in a similar way by the survey data. Of the 44 case that the survey respondents said involved witnesses, there were 20 which the police records showed involved no witnesses.

Survey respondents consistently overestimated the amount of time before the police arrived (Table 15), or the police underestimated it.

TABLE 13

VICTIM SELF-PROTECTIVE ACTIVITIES

	POLICE		
	No	Yes	Totals
SURVEY			
No	71	3	74
Yes	12	11	23
TOTALS	83	14	97
Percent Agreement 82/97 = 85%			
Index of Inconsistency = .63			
Phi (4) = .51			
r max = .71			

TABLE 14

PRESENCE OF WITNESSES

	POLICE		
	None	Yes	Totals
SURVEY			
None	151	17	168
Some	20	24	44
TOTALS	171	41	212
Percent Agreement = 83%			
Index of Inconsistency = .56			
Phi (r) = .50			
r_{max} = .71			

TABLE 15

POLICE RESPONSE TIME

SURVEY ESTIMATE	N	%
Shorter than police record	2	1
Same as police (within 15 minutes)	75	48
Survey 15 minutes longer	45	29
Survey 45 minutes longer	15	10
Survey 90 minutes longer	1	1
Survey 2 to 5 hours longer	12	8
Survey 6 to 15 hours longer	5	3
No Data (57)	155	
Percent Agreement = 48%		
Percent within 45 minutes = 87%		

TABLE 16

POLICE ACTIVITIES

	Police Data: Number of Police Activities						
Survey Data: Number of Police Activities:	0	1	2	3	4	Total	%
0:	3	24	2	0	1	30	14%
1:	1	86	45	8	2	142	67%
2:	0	15	16	2	1	34	16%
3:	0	1	4	1	0	6	3%
4:	0	0	0	0	0	0	0%
Totals:	4	126	67	11	4	212	
%:	2%	59%	32%	5%	2%		

Survey $\bar{x}$ = 1.08

Police $\bar{x}$ = 1.46

Percent Agreement = 50%
Percent Agreement(within one activity = 95%)

There were only two survey respondents who estimated the time to be shorter than what police records showed. Almost half the respondents estimated the time within 15 minutes of the estimate given on the police report, and the other half of the respondents said that the time was at least 15 minutes longer than indicated by the police report.

The data in Table 16 indicate that the survey respondents recalled a smaller number of police activities than shown in police records. It should be noted that the survey responses were to an open-ended question concerning what the police did after they arrived. Virtually all of the other survey data analyzed in this research were obtained from direct rather than open-ended questions. It is possible that the underestimation of police activities is partly due to the open-ended question, and that direct inquiries concerning whether the police "warned the offender," "restored order," "arrested the offender" and so on would have resulted in a greater volume of activities being reported in the survey.

Correlates of the Error

Error in the information about victimization details can confound research studies if the amount or direction of error is correlated with other variables of interest to the investigator. Of particular concern is whether the characteristics of the victim (including behavior, attributes, attitudes, and so on) are related to the amount or direction of error in information about the victimization event.

The data in Table 17 show that characteristics of the victim (age, race, sex, education, and attitude toward the police) are not related in any consistent manner with the absolute amount of error in the characteristics of the offense, the offender, victim activities, or police activities. Although a few of the correlations in Table 17 are statistically significant at the .05 level, the number that achieve this is about what one would expect, given the number of correlations tested in the table.

The direction of error in survey data (see Table 18) also does not appear to be related systematically to characteristics of the victims, with a few possible exceptions. Police activities tend to be underestimated by men, in comparison with women, and underestimated by persons who have negative attitudes toward the police. Persons with negative attitudes also tend to overestimate the degree of their own self-protective activities ($r = .14$, $p = .12$); overestimate the number of witnesses--in comparison with police data--and overestimate the length of time it took the police to respond

TABLE 17

VICTIM CHARACTERISTICS AND ABSOLUTE AMOUNT OF ERROR

Absolute Error in Attributes of the Victimization	Characteristics of the Victim				
	Age	Race	Sex	Edu-cation	Attitude Toward Police
The Offense					
Seriousness (N = 212)	.03	.01	.05	.03	-.01
Dollar Loss (N = 212)	.04	-.01	.00	.00	-.04
The Offender					
Race (N = 36)	.00	.15	.35*	.21	--
Known or Stranger (N = 46)	.19	-.06	-.19	-.06	.09
Number of Offenders (N = 43)	-.02	-.06	-.09	.10	.02
Age of Youngest (N = 35)	.26	.11	.13	-.08	-.16
Victim/Police Activity					
Victim Protection (N = 95)	.03	.03	.18*	-.07	.00
Presence of Witnesses (N = 136)	.11	-.19*	.05	.13	-.10
Police Response Time (N = 152)	-.04	.09	-.05	.03	-.02
Police Activities (N = 175)	.03	-.04	.09	.02	-.06

TABLE 18

VICTIM CHARACTERISTICS AND DIRECTION OF ERROR

	Characteristics of the Victim				
	Age	Race	Sex	Edu-cation	Attitude Toward Police
The Offense					
Over-estimates of Seriousness	-.02	.00	.00	.01	.00
Over-estimates of Loss	.07	-.01	-.05	-.10	.00
The Offender					
Race as White	-.06	.06	.06	.04	--
Offender as Stranger	.07	-.12	-.19	.01	-.09
Number of Offenders	-.13	-.14	.04	-.15	-.13
Age of Youngest	.06	-.02	-.18	-.06	.07
Over-Estimates of Victim/Police Activity					
Victim Protection	-.05	-.02	.08	-.06	-.14
Presence of Witnesses	-.15*	-.02	.04	.08	-.15*
Police Response Time	-.07	.06	.00	-.05	-.10
Police Activities	-.09	-.09	-.18**	.03	.15*

(r = -.10; p = .15). The only other correlation that reached statistical significance suggests that older persons underestimate the number of witnesses.

Two major implications should be mentioned: The first is that these characteristics of the suspect, victim activities, and police activities are not as error-free as characteristics of the event and, therefore, the strength of relationship one would expect to find when using these variables in attenuated--seriously in some instances. Secondly, however, the error tends to be randomly distributed among types of victims. Thus, one would not expect to find any systematic bias in terms of the direction of relationships observed when using these variables.

Distortion of Information as a Function of Time

It has been suggested previously in this paper--as well as in other research--that a 12 month recall for unbounded surveys may be preferable to a six-month period. This contention is based on research results that indicate telescoping (external forward and backward) affects six-month data more than 12-month data. In addition, the studies tend to suggest that forgetting does not worsen much between the third and twelfth month.

The question remains, however, of whether a longer time lag between when the incident occurred and the interview takes place introduces any other kinds of distortion or error into the victimization data. The matched incident set from the Portland forward records check was used to examine the correlates of the crime/interview time lag (see Table 19). The independent variable in this analysis is the number of months between when the crime occurred (as determined in police data) and the date of the interview.

A longer time lag is strongly related to error in recollection of the date of the crime: both the absolute amount of error (r = .64) and the direction of the error (forward) are affected by the time lag. In addition, longer time lags are related to less error in the estimates of dollar loss and to underestimates of the number of witnesses. As mentioned previously, however, one would expect to find 5 percent of the relationships statistically significant (at the .05 level). Thus, one should be wary of attributing substantive significance to the latter two correlations.

In general, it seems fair to say that for incidents which respondents report to the interviewer, the amount of error and distortion in their recollection does not increase as a function of the amount of time which elapsed between the crime and the interview--with the exception that there is greater error in remembering exactly

TABLE 19

EFFECT OF TIME LAG BETWEEN CRIME AND INTERVIEW ON RESPONDENT RECALL

	Correlation of Time Lag with Absolute Amount Of Error	Correlation of Time Lag with Higher Estimates In Survey
1. Seriousness of Offense (N = 212)	.01	-.01
2. Dollar Loss from Offense (N = 212)	-.14*	-.09
3. Race of Offender (white = 1) (N = 36)	-.12	-.11
4. Stranger or Known (stranger = 1) (N = 46)	-.21	-.08
5. Number of Offenders (N = 43)	-.02	-.07
6. Age of Offender (N = 35)	.13	.10
7. Victim Activities (N = 95)	.08	-.04
8. Presence of Witnesses (N = 136)	-.04	-.18*
9. Police Response Time (N = 152)	-.02	-.03
10. Police Activities (N = 175)	-.03	.06
11. "Don't Know" Responses in Survey (N = 203)	.02	N/A
12. Telescoping (N = 212)	.64**	.68**

when the crime occurred. Furthermore, there is no increase in the extent of "don't know" responses.

Survey Overestimates and Forward Telescoping

Another potentially confounding factor in survey analysis involves correlated errors. If persons who forward telescope also overestimate (or underestimate) crime seriousness, overreport (or underreport) victim activity, overestimate (or underestimate) police response time and so on, then unbounded surveys will contain aggregate-level error about characteristics of the events. To test for this, the amount of forward telescoping was correlated with the direction of differences between police and survey details about the crime. (The dependent variable in Table 20 is the same difference score used previously. It is calculated by subtracting the police score on the variable from the survey score.)

The results (Table 20) show that forward telescopers made more errors in recall of victim activities and that most of these were overreporting the extent of victim self protection. Otherwise, there are no significant correlations.

DISCUSSION AND CONCLUSIONS

As was pointed out in the opening section, the implications of measurement error depend on both the amount and the nature of the error. The key consequence of random error is an attenuation in the strength of relationship and tests of significance which, in turn, produce non-findings even when true relationships exist. Probably the most improtant consequence of directional error (error that is not correlated with other variables but which has a non-zero mean) is distortion and inaccuracy in descriptive studies of the phenomenon being measured. And, if the error is correlated with other variables used in the study, then it is possible for the results to contain serious distortions (or even reversals) in the direction of the relationship among the variables.

The major conclusions of the paper can be summarized as follows:

1. Data identifying respondents either as victims or as non-victims obtained from most of the commonly used victimization surveying procedures should be quite accurate. Researchers should be aware, however, that surveys using short recall periods (such as six months), no bounding to eliminate telescoping, and no special memory-aids other than the usual "screening" questions may contain considerable misspecification as to which respondents have been victims during the reference period. Sampling from files of known victims--such as police records or victim "programs"--and subsequent

TABLE 20

RELATIONSHIP BETWEEN FORWARD TELESCOPING AND SURVEY AND POLICE INFORMATION DIFFERENCES

Differences in Information	Forward Telescoping: Higher Estimate in Survey r	Forward Telescoping: Absolute Amount of Difference r	N
Seriousness			
Seriousness Scale	.00	.06	212
Dollar Loss	-.07	-.09	212
Characteristics of Suspects			
Race (white)	-.16	-.05	36
Stranger	-.20	.12	46
Number of Offenders	-.17	.10	43
Age of Offenders	.16	-.08	35
Activities of Victims and Police			
Victim Self-protection	.20*	.25*	95
Witness Present	-.01	.00	136
Police Response Time	-.12	-.08	152
Police Activities	-.02	-.11	175

*p <.05

use of the information in conjunction with general population surveys (to identify non-victims) can be expected to produce data with accuracy levels approaching those of the surveys only if their coverage of all victims (reported and unreported) is considerably higher than indicated by the non-reporting rates shown in the NCS. How high is open to specualtion, but it appears that a survey which is unbounded and uses a 12-month recall period should produce data that are as valid as a police/program which captures 40 to 50 percent of all the valid incidents in the survey. (The actual choice of a data set is not the subject of this paper and, of course, should be guided by several additional considerations--such as size of the sample that can be generated, as this is a major contributor to error, the cost of the data, and so on.)

2. The accuracy of survey data in categorizing respondents as victims or non-victims varies by type of offense: burglary victims are better-identified than any other type of personal (rather than commercial) victimization and victims of personal assaultive violence--especially if the offender is known to the victim--are identified with the least amount of accuracy. The implication here should be quite clear: theories of assaultive violence may be more difficult to support from the data than are theories of property offenses such as burglaries. Although surveys seem not to be a particularly efficient way of recovering incidents of personal violence (especially between persons who are known to one another), the same may be true for police data. The Portland forward records check study indicated that these same types of offenses--even though reported to the interviewer--were more likely not to be found in police files than were property offenses such as burglaries.

3. Information about the details of the victimization--such as those used in classifying the offense or in calculating its seriousness--tend to be rather accurate. The errors in these are not correlated with other variables--including the amount of time that had elapsed between the offense and the interview. The amount of loss either was overestimated in the survey data or underestimated in the police records, but the correlation (of logged values) was above .80. Seriousness scales--using the Sellin-Wolfgang weights--were not as accurate (r = .63) primarily because of discrepancies in the amount of loss.

4. The evidence suggests that characteristics of victims generally are not correlated with other variables in such a way as to introduce bias into the survey data. However, the amount of evidence relating racial and social class vairables to telescoping, "forgetting," and other kinds of memory distortion or error is not very extensive.

5. Evidence is accumulating that less serious offenses tend to be subject to more extreme patterns of memory decay.

6. The Portland forward records check suggests that information about offenders--especially the race and relationship to the victim--may contain considerable error, thereby making it difficult to obtain statistically significant results when using these variables unless the sample size is quite large.

7. The amount of time that elapsed between the incident and the interview generally is not related to the amount or direction of error in the data--with the exception of the respondent's ability to place the event accurately in time. Otherwise, it appears that if victims remember the incident at all, they tend to remember the details of it with the same degree of accuracy when it occurred in more distant months (up to 14 or 15) as when it occurred more recently.

FOOTNOTES

[1]The lack of representatives of the sample (when one begins with victims known to authorities or known to victim-oriented programs) depends on the proportion of all victims known to these authorities, the response rate of persons contacted for the purpose of interviewing, and the extent to which persons actually interviewed differ from both the non-respondent and non-reported groups. The reverse records checks--especially San Jose and London--contain information on characteristics of victims who could not be located for interviews. See Sparks (1977), Turner (1972).

[2]See Magnuson (1970) for a discussion of this.

[3]The principle can be extended to multivariate models and, in general, variables with greater error will show lower regression coefficients than variables with less error. The significance of this is of particular importance in studies where the researcher is attempting to compare the relative impact of variables with different error variances. For example, measures of attitudes, opinions, and perceptions contain more error than do factual attributes of victims (such as race, sex, employment, etc.) and more error than factual characteristics of offenses.

[4]The early pilot studies (Biderman, 1967; Ennis, 1967, and Reiss, 1967) identified most of the methodological problems in victim surveys. At this time, there have been four reverse record checks and one forward records check of crime victims. (In a reverse records check, one begins with a sample of known victims and measures the efficiency of the survey technique in "capturing" the events and information about them. In a forward records check, the sampling begins with the general population. Persons who say they were victims are tracked through the official records.) The reverse records checks were done by Sparks (1977) in three areas of London; Turner (1972) for LEAA in San Jose. Two additional reverse records checks were done by LEAA--one in Washington, D.C., and one in Baltimore. Very little information is available about the latter two. The forward records check was conducted by Schneider, et al., in Portland, Oregon, from victimization survey data that had been collected earlier for different purposes.

[5]The reverse record checks are not comparable to one another because the length of recall period differs; the questioning procedure was different; the length of the interview varied; the interviewing contact procedures differed, and so on. Most importantly, perhaps,

the surveys differed in terms of the types of crimes covered. The San Jose results were weighted so that each type of offense contributed to the overall scores for the survey in relation to the offense contribution to the initial sample, but in none of the other studies was the sample weighted so that it reflected the original sample (correcting for non-response) or so that it reflected offenses as represented in official data. Since the amount and type of error differ by type of offense, this lack of equivalency is especially important but virtually impossible to correct in secondary analysis. The Baltimore and Washington studies were the first two and were not done as well as the San Jose or London studies. For information on the NCS study comparing bounded and unbounded surveys, see Woltman (1975). The technique used to estimate external forward telescoping in this study was to compare the victimization rates of the bounded part of the sample with the unbounded portion. The difference, presumably, would represent the extent of external forward telescoping into the reference period. It is possible, of course, that there are other factors operative in this kind of comparison--such as population mobility rates of the bounded and unbounded portions with the corresponding likelihood of different rates of victimization. It is not clear from the census bureau report how these other possible contaminating factors were dealt with. (See Lehnen and Reiss (1978).)

[6]The 12-month external forward telscoping estimates for the London and Washington, D.C. studies are not at all comparable to the other estimates because, in each case, the external forward telescoping was estimated by drawing a sample of known victims who had been victimized 13-15 months prior to the interview date. The four percent estimate is the proportion of the 15-month sample base which were pulled into the 12-month part of the time period. Forward telescoping, however, can be more extreme than this and if the sample had included incidents as far back as 16-20 months in the past, some of these incidents also would have been pulled in. Thus, the London and DC information on 12-month external forward telescoping is an underestimate if one is interested in determining the proportion of incidents actually recalled in a time period that do not belong in that time period.

[7]The "gap" in victimization and official records is not found in all cities nor for all types of crime. In Portland, Oregon, for example, the forward records check found one in five of the offenses and accounted for about two-thirds of all the incidents that respondents claimed to have reported. Sparks estimates that only one in 14 of the incidents uncovered in the London survey made it into police records. For other cities, it sometimes appears as if the survey contains far too many "reported" incidents whereas in some cities there is actually a negative gap--probably produced by the serious problems

in calculation of "rates" for the official data with denominators that do not reflect the same population as counted in the numerator. See Skogan (1974, 1975, and 1978) for discussions of these kinds of problems.

[8]A bounded interview, as that term is used here, refers to an interview that is bounded by a prior interview (conducted at the beginning of the reference period), such as the procedure used in the NCS.

[9]The Index of Inconsistency is used in the San Jose study. Hindelang (1978) incidates that .20 or below is considered very good; .21 to .50 indicates some problems with the data; and above .50 is an indication of serious problems. It is a measure of association similar to phi and r (but reversed in its direction) and it is asymmetrical rather than symmetrical. Thus, it shows the degree of association between the "standard" and the measure to be validated. The Index can vary between zero and +1 with higher scores indicating more inconsistency. All of these statistics--except the simple percentage agreement--are influenced by the marginal distributions and, unless the marginals are equal, the statistics cannot achieve their maximum.

[10]The 12-month recall period would still be superior to the six-month (in unbounded surveys) even if the rate of forgetting dropped to 18 percent--the estimate obtained from the Washington, D.C. study--and the 12-month data stayed the same as in Example "A" of Table 3. A six-month, unbounded survey, with external forward telescoping of 24 percent; exaggeration of 11 percent, forgetting of 18 percent and external backward telescoping of six percent would show a percentage agreement of 83.5; phi = .59; and the index of inconsistency would be .43. In addition, of course, a 12-month recall period is more productive than a six month survey in terms of the sample size of victims--especially the less common ones.

[11]This paper does not focus on the utility of official data for victimology research, but the interested reader might notice that if the sample of known victims (such as police records or program files) covers 60 percent of the "true" victims and if this sample is combined with a sample from the general populations (with corresponding re-weighting if needed in later phases of the study) than the validity of the victim-nonvictim variable might approach that of a 12-month unbounded survey--provided that there were no expected differences between reporting and non-reporting victims as well as victims who participate and those who do not. It is, however, difficult to obtain 60 percent coverage from official files and, for incidents in which one might obtain coverage, it is possible

that the 10/90 split used in Table 3 is too low. If so, then the validity estimates would change and would worsen if the proportion who are victims increases. For rare offenses with high coverage in official data, the costs of general population surveys may not be worth the marginal improvment in accuracy--especially since error also is a function of sample size and this factor is not taken into account in the tables. To illustrate, consider an offense with a true victimization rate of two percent and a reporting rate of 50 percent. This would have a percentage agreement of 98 percent; phi of .70 and an index of inconsistency of .[illegible].

[12]See Hindelang (1976) and 1979; Schneider, 1977.

[13]These studies include Hindelang and Gottfredson (1975); Schneider and Sumi (1976); Woltman, 1977.

[14]This was clearly demonstrated in the San Jose study (Turner, 1972) but not fully incorporated into the LEAA/census bureau reports from the victimization surveys in the early publications.

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APPENDIX A

The seriousness scale used in the analysis is a replication of Sellin and Wolfgang's 1964 index (Thorsten Sellin and Marvin E. Wolfgang, The Measurement of Delinquency, New York: Wiley, 1964).

a. Injury Component

Question (INC069): (If victim was injured): Did you receive treatment at a hospital, at a doctor's office, or what type of treatment did you receive?

Scoring:	Score
Blank (indicates no injury)	0
1. No treatment	1
2. Treated in doctor's office	4
3. Treated in emergency room	4
4. Overnight at hospital, or more	7

b. Sex Offense

(Crime codes of 120000 through 129999 are rape)

Rape	8

c. Weapon Intimidation

Question (INC030): Did the person(s) have a weapon such as a gun or knife, or something he used as a weapon, such as a bottle or wrench?

Scoring:	Score
1. No	0
2. Yes, gun	4
3. Knife	4
4. Gun and knife	4
5. Other dangerous weapon	4
9. Don't know	0

APPENDIX A (Continued)

d. Physical or Verbal Intimidation

Question (INC031): Did the person(s) threaten you with harm in any way?

Scoring:	Score
1. No	0
2. Yes	2
9. Don't know	0
Blank	0

e. Forcible Entry

Question (INC021): Was there any evidence that the offender(s) forced his way in or tried to force his way into the building, such as a broken lock, broken windown, forced door, forced window, or slashed screen?

Scoring:	Score
1. Blank or No	0
2. through 8. (other evidence)	1
9. Don't know	0

f. Costs and Losses

Questions concerning losses are called COST1, COST2, COST3... COST5, and represent, in order, money lost; dollar value of items lost and dollar value of damages, none of which was recovered; insurance paid; value paid by offender; value paid by anyone else. The sum of these represents the total value of the loss.

Scoring:	Score
Under $10	1
$10-250	2
$251-2000	3
$2001-9000	4
$9001-30,000	5
$30,001-80,000	6
$80,001-highest	7

SOURCES OF DATA FOR VICTIMOLOGY

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Records, Data and Normative Indicators

Data as I will use the term are records of a systematic sort about phenomena. I am concerned only with data from which statistics can be generated; hence records must exist for a reasonably large number of phenomena of the same class. Data depend upon highly selective abstracting, symbolizing and recording of activities by those who make the records. Few records used in victimology are records from direct observation by the recorder of all the phenomena of interest. This is because victimology is concerned generally with phenomena, or sequelae of phenomena, that are imperfectly predictable with regard to place or time of occurrence and recorders usually cannot readily position themselves to observe many instances of the same class. (There are extremely important exceptions, as I shall note, and as are discussed by McCall (1979) in his work on field methods in criminology.) The phenomena of interest to victimology are events (and their sequelae) in which persons, as individuals, or as groups or collectivities (victims) have been affected by acts (offenses) of other persons or groups (offenders) which some judger defines as wrongful (offenses), in terms of institutionalized

criteria (law or less formal social norms). To qualify, the effect of the offense on the victim must be harm, attempt or threat of harm, or being placed in special danger of harm.

While it is possible to define purely objective indicators for the normative components of this definition, such as victim, offense, and harm, these concepts remain nonetheless normative. Hence, there are extrascientific, evaluative components intrinsic to any data for victimology. The source of these evaluative judgements, however, need not necessarily be the data recorder--the recorder's data may reflect evaluative judgments of others. The same holds true of the compiler or user of data from the records, where they, in turn are not the original recorders. Recorders, compilers and users of records used for victimology data are members of organizations who apply organizational procedures and norms to observations. They are policemen, physicians, social workers, research clerks, etc. They are usually not direct observers of victimizing events, but are rather dependent, directly or indirectly, upon the reports of others--victims, offenders, and witnesses, particularly--for information. This makes them usually dependent, as well, upon applications of normative judgements by others. This dependence extends to the very eligibility of a phenomenon for inclusion in the set of victimizations recorded, as well for the identification of the key components: victim, offender, offense, harm. Subsequent creators and processors of records and data may impose additional judgment to select or reorder the products of previous processes of judgment, but they are nonetheless constrained by them. The chains of persons between original observations of victimizing events and ultimate data for analytic use may be long or short--the longer they are, the more complex and potentially consequential are the processes of intermediate judgment in their effects upon the accord of the data with the normative concepts for which the ultimate user wishes them to serve as indicators.

Temporal Considerations

Many of the properties and problems of data sources for victimology can be highlighted by considering the importance of the time dimension for the data and its users. I have selected several such topics for treatment here.

Closeness to the Events:--The remoteness of the recorder is one of time as well as place. With the principal exception of those unusual classes of victimology data which we will discuss in which the recorder is also contemporaneous observer and recorder, the creation of the original record is dependent in whole or in part

upon retrospective recounting by persons who were observers or participants in the victimizing event, or of some observable traces left by the event. The elapsed time between observation and recording may be very brief, as in the particular case of "on view" reports by police of robberies they come upon while still in progress, and somewhat less brief, but nonetheless briefer than in most victimology records, when police are dispatched and interview victims and witnesses immediately following the event. By contrast, some data used in victimology are based upon verbal accounts by victims given years after the victimizing event, as in some studies of rape victims.

It was the fact that reports by police were the records "closest to the crime" that led to Sellin's (1964) well known advocacy for the use of police offense data for crime statistics, in preference to those from later stages of the processing of events by the justice system. The closeness in the temporal sense of the police report has advantages of lessening the interval during which simple memory decay, as well as the influence of potentially contaminating intervening events, may affect the ability or inclination of participants and observers of the victimizing event to recount phenomena completely and accurately. Methodological work on the victimization survey has demonstrated the high rate of apparent "memory decay" for victimizing events and the need for relatively brief recall periods in questioning people regarding whether they have been victimized in the past (Biderman, 1968). We still do not know how pronounced the effect is.

Recounting for the purposes of a record, however, is more than a matter of recall. It is also a complex intellectual task involving the interactions of recall with verbalization. It usually also is a product of an interrogatory and is subject to social and psychic influences of that interactive process.

Physical and psychological trauma in some victimizing events may totally incapacitate some participants--victims or offenders--and have serious adverse consequences on the motivations or abilities of others--victims, offenders or witnesses. There is a tendency to overgeneralize with regard to virtues of the more contemporaneous record, particularly with regard to traumatic or stressful victimizing events, a tendency which distorts some interpretations in "reverse record check" validational work. I was struck in doing follow-up interviewing of injury cases identified from ambulance service records of the apparent frequency with which these records were incomplete and incorrect even with regard to victim identity. This is understandable when one realizes how often the records are made by crews dealing with urgent action problems and with persons who are injured, drunk, agitated, or unconscious.

The normative considerations that are important to definitional aspects of victimization, as these enter into direct observer accounts, also may differ close in time to the event and at a more remote time. The more proximate judgments also are not necessarily superior for any and all data purposes. It is true, as Bartlett (1932) and other students of event recall have noted, that there is radical distortion of factual recall of elements of an event, and selective retention of elements, to shape a coherent version of it. For victimizing events, the normative coherence of the story is particularly important for the participants, and affects the recall of facts. But the normative elements are of interest in themselves to victimology. One of the strongest psychological needs of victims and other participants in stressful events is to test by psychological rehearsal and by conversations with others their immediate reactions and to arrive at a psychologically and socially satisfactory moral definition of the event--particularly, of their own behavior in it. For many purposes of victimology, either the end result of this process, or the entire process itself, may be more important to have reflected in data than the more contemporaneous reaction alone.

After a long period of relative inactivity, interest is reviving in psychology for the study of the memory of episodic phenomena which may help with the problems of victimology in eliciting and evaluating the retrospective data on which the field so heavily relies. (Linton, 1975; Loftus, 1975.)

Contrived Experiments:--There are several important exceptions to the general reliance in victimology on secondary, noncontemporaneous sources. An important exception is the contrived experiment. Milgrim's controversial experiments are the best known, but many others also were apparently conducted for, and do indeed illustrate, the ease with which people can be brought to assume the offender role, or to accept abusive treatment (Zimbardo, 1963). Getting subjects to do (apparent) grievous harm or to submit to it is a long-standing feature of experimental research in hypnosis. Orne (1961) reports research which tested whether the hypnotic element was truly crucial to the "antisocial" or pain-enduring behavior observed in many earlier hypnosis experiments, or whether other mechanisms were operative, such as reliance by subjects on the responsibility of the investigator.

What might be termed the post-Kitty-Genovese experimental tradition is another strand of psychological work important for victimology; a line of endeavor which fortunately has gone beyond efforts at demonstrating how self-centered, callous, stupid and beastly people can be, in that this recent research goes on to explore the conditions under which "good Samaritan" behavior is more, rather than less likely to be displayed toward victims. (Bloomfield, 1978).

Durable Physical Traces:--Although we generally do not have contemporaneous records of contemporaneous observers as a basis for all data on the victimizing event, we have some remedy for information on those actions that leave physical traces of some duration. Some of these traces may be extremely ephemeral; others may remain observable for many years. To illustrate an ephemeral case: the police officer unambiguously may identify an event as a robbery with a victim and offender, rather than as a fight in which victim and offender are not differentiable when Participant A points out that Participant B is in possession of Participant A's wallet, which B has not yet had opportunity to ditch. At the lengthy extreme, we have archeological counts of the proportion of skeletons in prehistoric graveyards showing evidence of violent deaths. Of victimizing events eligible for representation in a theoretical universe of all such events, events tend to be represented in record systems and, hence, data as a function of the durable visibility of physical traces they leave. There are many reasons for this proposition's applicability. The illustrations already given show:

1. The greater credibility recorders are wont to attach to physical evidence as opposed to potentially untrustworthy human testimony.

2. The greater durability of some physical traces than of any human memory.

3. The availability of traces for observation, even absent the availability of identifiable contemporaneous observers.

Much of the criminological victimology has been devoted to homicide because, among various other reasons, of the difficulty of disposing of a corpse and the signs of violence it bears. This helps make homicide an offense relatively frequently enumerated, together with relatively universally recorded information on some characteristics of identified victims. As a source of victimological data, the availability of such mute testimony for homicide seemingly more than offsets the fact that for this class of victimization we so often lack victim verbal testimony. Although the actual homicide event usually is not observed by a recorder, its traces are. Similarly, direct periodic counts are made of broken panes in school windows as indicators of the incidence of vandalism against schools. In a new class of victimization, computer crime, the offender frequently cannot disable all devices which may retain electronic traces of his offense, sometimes traces that will identify the offender. Precisely because this is so variably the case, however, record systems with regard to computer crime are highly selective representations of the universe of such victimization.

Computer crime also illustrates a more general class of important sources of data on victimization. Since many of the most important transactions of modern society take place largely or exclusively by recorded symbols, so, too, do many victimizing transactions. Records of transactions thereupon become the basis for creating a record system of victimization. The systematic audit of the systematic transactional records is a particularly important source of data in the field of white collar crime. Since Reiss and I have during the past week completed the production of several hundred pages of manuscript on Sources of Data on White Collar Violations of Law, I am a bit too full of the subject to summarize it economically in the present paper.

Durable traces are valuable not only, or even largely, in their own right but as complementary to the process of creating records from human testimony. Durable traces help those who would create records overcome the uneagerness or the difficulty that observers of victimizing events may experience when asked for the desired information. We will discuss subsequently strategies exploiting durable traces in this way.

However important are durable physical traces, the one class of durable traces of victimization on which we are most dependent for data are the traces left by events in the nervous systems of people as these are accessible to record systems through some verbal interrogatory process.

Victimizing States:--Our discussion thus far has rested upon the rather sterotypical conception of victimizing events as of brief duration, so brief, indeed, that they are treated conceptually as instantaneous events at a point-in-time, with no attention whatsoever to their extension on the temporal dimension. This stereotype follows from the conception inherent in police offense data and from the general preoccupation with the "ordinary crimes" of the "Part 1" classes which has been characteristic of criminology.

The point-in-time incident sterotype is applicable to some sudden crimes involving "accidental" encounters of offender and victim, but it is not applicable (a) to most of the victimization that is most serious in its victim consequences, nor (b) to most victimization that is most susceptible to effective social intervention, nor (c) to eliciting the most useful information even about the "sudden accidental" victimization that fits the point-in-time stereotype most closely. Most of the offenses that are conventionally called "serious," that is, the most numerous Part 1 classes, we have learned are actually trivial in consequence--so much so that we have to work hard to get people to remember them even six months later when we do a victimization survey. On the other hand, I am

convinced that most of the victimization that is truly serious in its victim impact is not in the Part 1 set nor visible at all in the vignettes from which scales of "seriousness" are created. I refer to crimes that have extensive duration in time; ones to which the prevalence of people in a victimizing state would be a more appropriate statistic than the incidence of offenses over time. Among the kinds of victimization that may be conceived and measured in prevalence rather than in incidence terms are various forms of continuing persecution, terrorization and extortion (for example, the worker who is kept in line by union or company "goons," school children who must regularly yield their lunch money to fellow toughs, the merchant subject to a shakedown racket, the prostitute terrorized by her pimp, or the spouse or sexual partner kept from separating from a hated relationship by fear of violence). The number of people who must unlist their telephones because of a series of threatening or obscene calls would be another useful statistic. (Penick and Owens, 1978.)

To some degree, victimization surveys yield information about these kinds of situations through tabulations of what are called "series victimizations." In the National Crime Survey (NCS) these are defined as three or more similar incidents of victimization mentioned by a respondent, but which, because of frequency and/or similarity, the respondent cannot individually date in time or differentiate descriptively from one another. Thus, the terrorized spouse may be identifiable in a victimization survey through repeated incidents of spouse beating, and the terrorized school child by repeated incidents of robbery. But the instruments used by most victimization surveys are not addressed to elucidating this class of victimization.

It is not necessary for a durable condition of victimization to exist for there to be many incidents, each qualifying under the definition of a criminal victimization used by the survey. To make a threat credible to the victim and to continue a state of terrorization, the terrorist must neither continually repeat his threat nor demonstrate his willingness to carry it out by actually inflicting violence.

Reiss also illustrates a somewhat different type of continuing victimization by the case of the tenant inhabiting a dwelling affected by a building code violation. The "crime" of the landlord in this instance is similarly a state, rather than incident form of crime, that continues in duration through time, so long as the condition of the structure remains uncorrected. Bigamy has the same continuing character and involves a victimization where the bigamist keeps a partner ignorant of the other. Such victimization states are subject

to incidence measurement with regard to points of entering or leaving the state, but prevalence measures are applicable to the observation of such victimization in a population. (Biderman, in press.)

The series form of incident may also be an indicator of a condition of victim proneness, that is, a person vulnerable to offenses of a similar character by different offenders on frequent occasions. Among such conditions mentioned in victimization survey results are the shopkeeper in a high-crime area or the resident of a highly burglary-prone dwelling unit or the person who is forced to park his automobile where it is regularly subject to vandalization.

While the NCS utilized the panel technique primarily to institute a control on "telescoping," the value of the panel feature probably will reside more in the elucidation of those forms of victimization best characterized in terms of prevalence than of incidence measures. As indicated earlier, because inquiry can be made of current conditions of victimization, recall problems are avoided. Conditions are more accessible to survey detection than past events. In addition, their very duration or frequency in the individual life space makes them more important in their consequences for individuals than many of the incidents of highly ephemeral consequence for individuals with which victimization surveys have been preoccupied. Finally, as Reiss has pointed out, such victimizations usually present a much higher potential for effective system intervention than is the case with point-in-time crime incidents.

Event Histories:--Even in the case of crimes of very brief duration, such as the casual street-mugging, etiological interest may reside in factors other than the chance intersection of the geo-temporal paths of offender and victim. Of the ordinary Part 1 classes--even the "stranger offenses" of this class--many have histories of appreciable duration, histories of hours, days, weeks or years. We can derive little sense of the significance of these histories from most of the data we use for studying such events. These histories may involve nothing more than the period during which joints are cased or marks spotted and sized-up, but there are also many more facets of histories of offenses that go toward establishing the definitions of situations by offenders, and by victims, which determine the occurence of victimizing events. Uniform Crime Reports and National Crime Survey data tapes have the incident logic and are devoid of information on the histories of victimizing events. Somewhat more information may be available in the records of detective divisions, prosecutors and court trials. Much of the history of victimizing incidents that may be of etiological importance is inadmissable as legal evidence, however--in considerable part, because of the point-in-time, incident logic implicit in the legal definitions of many offenses. The inadmissibility of etiologically

pertinent history was illustrated recently in the Ford Pinto case were evidence relating to the development of the organizational set in the company toward gas tank safety in years prior to those involving work directly upon the 1971 Pinto was ruled inadmissable.

Ideally, for understanding event histories, our data would be based on information on the relevant behavior of all of the actors mentioned in the definition of a victimizing event at the beginning of this paper, including their perceptions and definitions of the event. Victimology rarely has available information from more than one direct source, and seldom from all of the actors.

Some attempts at gaining information directly from all of these types of actors have been made. The Kansas City Preventive Patrol Experiment is one such case (Kelling, et al., 1976). Another is Olweus's research (1978) on school bullies and their whipping boys in which he interviewed not only the offenders and their victims, but also peers, parents, teachers and other school authorities regarding each of his cases.

Harmful Consequences:--Victimology, by redirecting attention from preoccupation with offense and offender, toward the victim and toward a broader conception embracing the relations of the victim within the victimizing event, its causal history, and its harmful consequences, is playing an immeasurably constructive role for criminology if only because this orientation demands attention to the much-neglected temporal dimension of criminological data. The etiological perspectives of victimology, as introduced (or at least reinforced) by von Hentig, Mendelsohn, Schafer and Wolfgang, directed greater attention back in time from where the narrow focus on "the offense" had previously been fixed. The concerns of victimology with the harms caused victims directs attention toward data forward in time, although research, and statistics, useful for illuminating harmful consequences of victimization remain in their infancy.

For many victimizations, the harm caused can only be ascertained with the unfolding of time. For some classes such as homicide, the harm is indeterminate in the individual case, for one can never know what the value of a life would have been, nor even its duration, had it not been prematurely terminated. This provides good reason for the use of statistical expectations (although perhaps scant excuse for the economics-minded approach of using expected lifetime earnings). The tables used for such evaluations are just one among many instances in which the data for victimology are data on nonvictims. Using external data also, we assign values to stolen cars by knowing what the market value is for a similar car sold rather than stolen. However, logical difficulties of asking questions of the sort:

"what would have been if not for...," that are not always that readily solvable are endemic to the estimation of harm.

The duration of harmful consequences of victimizing events is itself one important determinant of the seriousness of victimization. Irreversible and irremediable harms--for example, homicide, permanent injury, the loss of irreplaceable heirlooms or irretrievable repute--are the extreme cases.

The NCS collects a great deal of data on the harms suffered by victims, particularly property loss and medical attention received. Particular emphasis is placed on economic losses, and the resulting data have been a boon to the booming "economics of crime" field.

Current Consequences Surveys:--The strategy of the conventional victimization survey is to ask the respondent about a past event and then explore the consequences, past or still existing. We explored an alternative technique of asking respondents in a random population survey about present conditions of physical injury and thereupon proceeding with questions to determine which, if any, of these current conditions were due to an event the individual defined as a crime. (Biderman, 1975c.)

Relative to past event-recall, such current objective consequences screening will reduce data losses from:

(1) respondent's failures of recall

(2) the application of overly restrictive ideas of "crime" in the recall task

(3) the need to restrict the interview to a brief reference period

The approach also eliminates from the interview and the analysis events that are of trivial consequence to victims since the respondent only reports matters that are above a threshold of "current attention." For the approach to be of relative value, these gains must offset the following sources of inefficiency:

(1) the loss of data on events that do not still have noticeable consequences at time of interview, including all data on attempted crimes and threats, however grave these may have once been from a legal, moral or psychic point of view,

(2) encumbering the interview itself with much nonrelevant information exchange,

(3) the need for complex analysis to estimate the incidence of victimizing events given the variable duration ("mortality") of injury effects.

The current consequences approach directly yields indicators of the prevalence of harmful effects of crime among a population at a particular time. The survey we conducted of a Washington metropolitan area sample, for example, found about 15 percent of the respondents were currently suffering from handicaps or pain due to an injury. Acts regarded as criminal by the injured person were responsible for 18 percent of these conditions, i.e., 2.7 percent of the sample of adults were current victims of crime-caused physical injury. Many (29 percent) of those with injuries reported they were suffering effects of more than one injury. Very few of the injuries attributed to crime were of recent origin--over one third of the conditions dated back five or more years.

Such indicators of the prevalence of adverse conditions resulting from crime are of great importance and neglected usefulness. Nonetheless, there has always been much greater interest and attention given indicators of the incidence of crime events than the prevalence of their effects. The current consequences approach could provide incidence estimates only given a large number of observations at many time points, if the estimate was to take account of the decay of effects of injuries with short-lived consequence for the victim.

Economies would be realized by pursuing information regarding crime as a cause of injury within surveys directed more broadly toward the topic of injury, or even toward health in general (Biderman, 1975a). From the standpoint of the meanings and uses data may have, there is also great value to examining crime as source of harm to physical well-being within the context of inquiries into the topic of physical well-being. The ordinary perspective of crime statistics asks: "What number or proportion of crimes involve injuries to victims?" The current consequences methodology can also ask "What proportion of injuries involve crimes?" The latter type of question provides a metric for many problems of social evaluation and social policy within the criminal justice field that are not given by the former. It, furthermore, affords a source of information regarding the ways in which criminal justice matters are bound up with those in the realm of health and safety.

The results of this pilot survey show the importance for the etiology of injury of human agency and of failures of legal and other social controls. Almost half of the injured respondents attributed the harm from which they were suffering to actions of others. One fourth of injuries from all causes were blamed upon "negligent,"

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"reckless," or "hostile" behavior by other parties; in most of these instances, acts the victim regarded as "criminal." These results indicate that norm violations as a cause of injury merit greater attention than they currently receive in data collection in the health field.[1]

The use of objective and current consequences approaches may also prove valuable for investigating the impact of crime on life domains other than physiological health. Something close to this orientation has already figured in a number of victimization surveys in the form of questioning about residence and neighborhood; for example, questions about actual, intended, or desired changes of residence with follow-up questioning to determine whether these were provoked by direct victimization. Other domains that could be explored in this fashion are social relations, personal property, working life, and psychological and sexual adjustments. One strategic multipurpose vehicle might be general screening surveys of the impacts of various kinds of severe disruptions of the normal course of life of individuals and families, with follow-up interviewing carried out of those cases pertinent to interests of specific agencies charged with preventing, offsetting, or compensating for social misfortune.

The prevalence-of-harm orientation is important to victimology's role of not taking criminal law as fixed and immutable, but also in searching for avenues of fruitful reform of law. One broad strategy is to identify persons, or groups of persons, who are suffering serious harms as a result of acts which are not now criminal, but which should be so defined given the magnitude of the harm and moral judgments with regard to its cause. My first incarnation as an employed social scientist was in a project of this type. This was a project sponsored by the American Bankers Association which wished to demonstrate that small loan customers (of small loan companies, not banks) were being misled to their impoverishment by quite legal (indeed, then quite recently legalized) practices of the industry. That study was done almost 40 years ago and "truth in lending" studies remain an active genre. In a later incarnation, I worked on research

[1] Dilemmas exist as to the degree to which medical data systems should or should not be influenced by criminal justice system criteria. Although some investigators prefer to use homicide data from vital statistics sources than those from police sources, for example, the two sets would be more useful were the vital statistics more independent from police sources. The International Classification of Diseases includes classes of injuries by human agency that depend on application of criminal legal criteria that are presumably not within the special competence of medical recorders. (Biderman, 1975a.)

which, among other objectives, sought to bring about clearer bans in international law on psychological and political abuse of war prisoners and other detained persons (Biderman, 1968).

Victimology may also contribute to reform of law by avoiding false exaggerations of harm. This is a particularly important need at present when there is considerable movement simultaneously toward recodification of criminal law and toward mandatory sentencing provisions for offense categories under the code. There is considerable hazard of the operation of false stereotypes in positing bundles of attributes of acts and their consequences in such definitions that may have poor accord with the distributions of actual events and the seriousness of the harms they entail. A reasonable system requires consideration of an extensive set of relational attributes among elements of our definition of a crime event. The categorical propensities of some criminological statistical studies, particularly those with inadequate numbers of cases, can also contribute to inequitous law, if such studies are influential.

Psychic and Behavioral Consequences:--Attention to studying the durable consequences of victimization, stangely enough, is far more common for psychic than for physical or material consequences. We haven't the vaguest notion of how many people are this day lame, halt, blind or in continuous pain because of criminal victimization. We have, however, a wealth of studies, and some major statistical efforts, that address the issue of how victimization affects later fear and anxiety and problems of psychic adjustment. Some of this literature is based on fairly intensive interviewing of victims of particular classes of crimes--rape is probably the most intensively worked area--and does yield information of dramatic importance. It serves both to justify and to guide the counseling programs of the new but burgeoning victim assistance industry.

This body of research usually depends upon information from informants who voluntarily or otherwise are available through agencies of social intervention, such as treatment and counseling agencies. Such populations are ideal if the purpose of research is to inform the agencies of characteristics of their clientele, but not ideal if the purpose is either to extend that clientele or otherwise to treat a population less selective than that reached by the agency. McIntyre and Curtis (1979) have recently completed a study of rape victims in which subjects were recruited by an intensive multimedia advertising campaign, and the use of modest financial compensation for subjects, as well as through the agency sources. While these devices were effective in procuring many subjects who would not have been identifiable through any agency lists, such a procedure does have selectivity of unknown character

that hampers the generalized statistical interpretation of the data it yields.

Impacts of Crime:--In general population surveys, however, we generally find little to support the idea that the consequences of "ordinary crime" (as distinct from organized, white collar or political crime) have any marked impact on the lives and well-being of the American people. There are several possible explanations of this. One explanation is that criminal victimization is indeed relatively rare, and that highly consequential victimization is extremely rare. This may be even true of the cumulative victimization experiences of persons over a span of years--another aspect of the temporal dimension of victimization about which current data sources leave us almost totally in the dark. The victimology literature has much theory and anecdote about victimization proneness, but only the National Crime Survey is a source of useful data on the matter. But those data are for only a brief "in-panel" period (32 months), only a selective fraction of the sample actually is sufficiently immobile to yield data covering even that long a period, the treatment of "series cases" hides much of the important data for cumulative reckoning, and longitudinal analyses of the complex data file structures of that survey's design are so difficult that we are just beginning to get pertinent cumulative information from the NCS.

Another possible reason for the scant evidence in major surveys of there being any major impact of criminal victimization on the life of the nation, is that the surveys are misleading; that they are not posing the right questions in the right way. The Annual Housing Survey (AHS), for example, has a number of items in it pertinent to the effects of criminal victimization (Biderman, 1979). We can consider for example, the reasons people give for having moved from where they lived and having picked the spot where they live now. The AHS questionnaire affords reasons galore in its precodes, but effects of crime or fear of crime don't even make the list. In the NCS cities surveys, crime fear was rarely given as a reason for changing residential location (Garofalo, 1977:21). Yet are there many doubts that crime and fear of crime have changed the urban landscape of America and continue to do so? Is it truly only secondary effects of victimization--that is, not what happens to me but what happens to people around me--that is the source of the major consequence of crime for contemporary society? And, if that is the case, is it direct knowledge or mass media information about victimization that enters into decisions people as individuals make and that in aggregate change the landscape? In either event, does victimology's notion of the victim misdirect attention as to where and to when the most important consequences of victimization take place? (Cf. Dubow, McCabe and Kaplan, 1979.)

There are other possible interpretations, and I think also correct interpretations, of why our statistical data fail to reflect accurately and sufficiently the longer-term impacts of victimization on behavior such as residential choice. Our questionnaires tend to isolate crime consequences from the round of life--the domains in which they have their impact. There are two adverse results of this: victimization is undercounted and the data are less usefully related to the contexts that explain victimization and in which useful application of results would have to take place.

The first defect is one we are attempting to remedy in current work being undertaken to improve the questioning in the National Crime Survey. The questions posed to determine whether a person has been victimized are so abstract and removed from one's present experiences around which one organizes one's thoughts and memory with regard to victimization one has experienced. I may suggest this effect by pointing to the victimization data yielded by the NIE-sponsored survey on crime in high schools (National Institute of Education, 1978). Even though NIE data are restricted to in-school victimization, only, the monthly rates for victimization in the NIE data are about the same order-of-magnitude as annual rates for 12-19-year-olds in the NCS. (The NIE rates cited here are for bounded data from bounded interviews. Group-administered questionnaires in the NIE survey, which were unbounded, yielded much higher victimization rates.) To be sure, that the NIE used a one-month as opposed to the NCS six-month recall period certainly has much to do with the much higher victimization rates reported in the former survey by high-school-age boys and girls, but there is another factor apparently at work also. I would expect that questioning of students in schools about school is at least somewhat less likely to fail to evoke recall about school victimization that will questioning at home. A student may be completing the questionnaire at the very desk from which her purse was stolen. The person she suspects did it may be sitting across the aisele. Out the window is the playground in which she had been roughed up by the kids who resented blacks coming into the school. The teacher in that home room may be the one to whom she complained but who wouldn't do anything about it.

Similarly, questioning people at work about victimization at work will almost certainly yield a more complete enumeration of victimization at work than will questioning at home about victimization in general.

When we first experimented with victim survey methods, my original interpretation of the difficulty with which crime incidents were recalled by many (most?) respondents was that most crimes are not terribly important in their consequences relative to a host of other misfortunes which crowd our lives--illnesses, bereavements,

jiltings, burnt-out auto transmissions are at least no less rare and far more consequential than most crimes that fall into the Part 1 list (Biderman, et al., 1968). But I have since concluded that this interpretation is only part of the story. The other part as my school illustration begins to suggest is the consequences of much of crime victimization have meaning for the victims only within and as a part of the particular life domains they affect.

Social Consequences:--There is a theoretical bias inherent in the strategy of directing interviewing to the consequences of crime. It accentuates a bias already present in victimization surveys as contrasted with more traditional measures of crime. The victimization survey orients attention to impacts on victims as the measure of the significance of crimes, whereas in more traditional and legally oriented systems such as the UCR, a much more important criterion was the offense against the rule of law as contrasted with the offense to the individual victim.

The difference we have in mind may be illustrated readily by traffic law. With a victimization orientation, violations of traffic rule would be counted only when they resulted in an accident which inflicted injury on some individual or his property. If such an orientation was adopted by the criminal justice system, it would ignore most such offenses as driving through red lights or crossing the solid dividing line of a highway on a hill or curve. Only when the violation resulted in an "accident" would the "seriousness" of the act be measured by the injury suffered by the victim. If this appears far-fetched, consider the serious advocacy, for example, by Becker and Landes (1974), that punishment for crime should involve compensation of the victim by the offender through fines in proportion to the harm done. Note also that under such a rationale, even intent to harm becomes of little, if any, pertinence. It matters not whether an "accident" involved someone trying to ram someone deliberately, or because of a game of "chicken," or because of a desire to deliver mother to the hospital on time. Misses don't count, no matter how near misses they are.

To a degree, victimization surveys already reflect a bias from direct consequences to the victim in that, at least presumably, the seriousness and duration of the harm that a victim suffers have much to do with the ability of the survey respondent to remember and report an event in the interview. In ordinary victimization interviewing, however, the moral seriousness or the outrageousness of the act may or may not confer memorability on the crime event, so long as interviewing directs itself to matters of material harm, rather than psychic outrage.

Further, the value of a legal rule is not measurable by the social cost of the deviations that occur from it, but rather by the social benefits that derive from its existence. The harm that occurs from violations of rules are not only those to the immediate victims of the violation but the threat that such violations in aggregate would pose to the viability of the rule and the ability of people to conduct their own affairs on the basis of reasonable confidence that others will respect their persons and property in the manner and circumstances prescribed by the rule.

The social effect of violations on the strength of a rule is highly visible in the traffic situations mentioned above and was quantified by F.H. Allport (1933) many years ago in his famous J-curve hypothesis of conforming behavior. People tend to observe (obey) rules they observe (view) being observed (recognized and obeyed) and to violate rules they see others violating.

One of the respondents who contributed multiple incidents of victimization to our 1966 Washington victimization study also reminded me of the existence of a long-standing principle of crime-victim compensation that is operative in much of society. When asked if his losses were compensated in any way, this man responded that he took care of that by himself. Thus, when his coat was stolen in a bar, he took someone else's, auto parts similarly, etc. In military groups with which I served, not only was the principle upheld by the informal normative structure that losses to theft legitimate theft to replace the loss, it approached a moral imperative that one do so, so long as the secondary victimization was not within the primary group. Within the primary group, the principle, "Don't get mad, get even" required identifying and retaliating against the original offender. Only in special and extreme cases was mobilization of the official system sanctioned by peers, or indeed, the immediate representatives of military authority.

We also know with regard to assaultive violence that subjects of aggression frequently react with aggression against some other party--violent peck orders exist among young men as well as among chicks (W.F. Whyte, 1955). Thus far, however, our data systems are not designed well to identify such "secondary victimization" as an effect of crime. To the degree such a principle operates for classes of victimization within normative subcultures, the formal chain-like properties of the phenomena suggest the possibilities for very high crime incidence generation from this kind of effect.

A source of significance of attempted but unsuccessful or otherwise uncompleted crimes and those involving trivial material consequences is the destruction of public confidence in one's ability to count on the operation of law. So far, research has focused largely

on the negative side of this matter, the impact, direct or indirect, of victimization on fear of victimization and costs, including behavioral opportunity costs, of such fears. Such data can be put into perspective by illumination of their opposite, the value of feelings of security with regard to person and property. But, it is both an easier and more easily fundable task to study social disorganization than social organization.

Formal System Mobilization as Event Consequence

With relatively few exceptions, criminology has until recently been largely dependent for data upon a particular type of consequence of a victimizing event, that following from the intervention of some formal agency of social action. These interventions meet needs for data in that formal organizations, unlike most individuals, are generators of systems of records of their transactions.

The most frequently mobilized agency is the police--it is, as it were, the usual agency of first jurisdiction in criminally victimizing events (Reiss, 1971). The preponderant way in which police become mobilized is by notification by victims, although other citizen reports--by friends or kin of victims, offenders, or other private persons who witness or otherwise learn about the event are also common sources of the first mobilization of police response. There are events in which ambiguity may exist with regard to who is offender and who is victim, and police may be mobilized by a party that has self-definition as victim, but which party may come to be treated subsequently as an offender in the event. In a small portion of events, the police may learn of it before any other concerned party. Other formal agencies sometimes are mobilized earlier than are the police--ambulance service and other medical intervention may be mobilized with or without subsequent mobilization of the criminal justice system. (For certain kinds of injuries, police notification may be legally mandatory or mandated in administrative procedures of the medical agency.) In arson cases, fire departments are ordinarily those first mobilized, with extremely complex variation among localities and by the nature of the incident determining whether and how police agencies may be mobilized subsequently. Victimization occurring in particular institutional settings leads to the initial mobilization of the authority systems appropriate to those settings. School authority, rather than police, almost always are the initial, and usually, the only authority, to deal with criminal victimizations in school. Similarly in large industrial and business establishments, large housing complexes, parks and other large recreational facilities, in institutions, in the military, an internal system is first mobilized, with subsequent mobilization of police being variously problematic. Police and quasi-police organizations internal to some large organization, may have exclusive

purview or shared with the police agencies of civil jurisdictions, whose jurisdictions, in turn, may in some degree overlap.

If we extend the scope of our interests beyond "ordinary crime," a host of other potential organizations come into view as those first mobilized for various classes of victimizing events; attorneys, insurance companies and regulatory agencies, for example, in white collar crime cases (Biderman and Reiss, 1978).

The mobilization of one formal organization can lead to mobilizations of others, either independently, by action of the first agency notified, or by coping interactions of various parties to the event. Attention tends to be centered on the chain of the agencies of law enforcement and administration of justice, with the steep gradient of transition probabilities for subsequent action regarding the event as one moves successively toward higher police levels ("case papering"), prosecution, courts, corrections. The elaboration of the social apparatus has proliferated the kinds of agencies that may have involvement--legal assistance agencies, victim-witness assistance agencies, dispute reolution agencies, private insurance and victim compensation programs, as examples. While police records may be more exhaustive and less selective with regard to crime events, victimological research has made extensive use of records of other agencies, either as direct sources of data, or to identify for direct research interrogatory, informants with particularly desired characteristics. The records at these subsequent levels often serve data purposes better in that they often reflect more intensive investigation, more careful weighing of evidence, and more systematic and standardized processing.

It would require far more extensive space than is appropriate here to discuss the properties, uses and problems of data from any one of these classes of formal systems that become recorders of victimization information. I will attempt to deal with them in terms of a few very general remarks.

Questions exist regarding when and why particular systems do or do not get mobilized to attend to a particular event. Two effects of this variable mobilization are

a. the set of victims or victimization events covered by the records of a particular system may be a biased subset of all those in which the interest of some statistical user may reside,

b. the user's interest may reside precisely in the reasons why a particular system becomes mobilized or not, and the differences it makes for cases subject or not to that agency's interventions.

In these events, an agency's data become useful only in combination with some independent source of information. So, for example, such information as we have on when and why police are mobilized comes from observations organized specifically for research data collection purposes, such as the police observation studies conducted by Reiss (1971) and by victimization surveys.

The less-than-complete character of the records of formal systems may be viewed, in part, as merely reflecting the less-than-perfect organization of society--both the departures from perfection that may be remediable and those which inhere in the inevitable differences between ideal models and attainable realities (Biderman, 1975).

Let us consider two functions of an "ideal" society. Formal agencies may exist for one of two purposes:

1. For preventing social actors from harming others "wrongfully" (control systems).

2. For remedying or compensating for harms when they do occur (remedial systems).

A fully effective control system would indeed take notice of all wrongful harms and act upon them, by deterrence, incapacitation, norm-reaffirmation, or whatever other means, toward minimizing reoccurence of like acts by the same or other potential offenders. Similarly, the system of remedy or compensation would be mobilized to right, insofar as possible, all wrongs. We need not elaborate here on the fact that such systems do not remotely approach universality in their capacities to either learn about harmful wrongs or to act on all those wrongs they come to know about. Their very imperfections as action agents also lessen the degree to which those upon whom they are dependent for their mobilization turn to them in that it is often believed it will be idle to do so. If anything, the public has rather exaggerated ideas about what such systems care to have brought to their attention and what they have any capacity or responsibility to take serious action upon (Reiss, 1971). All agencies also have needs and agendas that are not always congruent, and may be quite incongruent, with the needs and interests of those upon whom they rely for their mobilization; that is, the agencies and their actors serve both their own purposes and those of parties with whom they have regular dealings (as they generally do not with individual victims and witnesses). Also, their general public functions may in any given instance conflict with the perceived interests of an individual victim, witness, etc. Motivation to mobilize them is not always high.

As agencies that do act, often for the good or ill of those with whom they interact, control and remedial systems also are dealing with persons who may have high disposition to give them distorted as well as selective information. Many of these formal systems must therefor rely on the difficult process of balancing testimony, variously available and often biased, from multiple sources. For many purposes of data, this makes for highly complex, very unstandardized systems of records reflecting results of elaborate processes of judgment and that are therefor extremely burdensome if not impossible for some eventual data user to relate to his own purposes and to evaluate in terms of his own independent criteria. The criteria and procedures for judgment also are subject to change over time, as well as being non-uniform by place. End results of the processing of information by such systems usually have to be taken with a considerable degree of faith, as well as with acceptance of normative criteria from which one would prefer one's data were free.

Just as the formal agencies are far from perfect as universal observers, they are also far from ideal as data recorders. More particularly, they usually have scant interest in records as data and are interested in them only for the action and evaluation purposes of the organization.

Nonetheless, the closer agencies come to universality as action agencies, the better they serve as sources of data. One of our problems is the lack of systematic features to the control and remedial systems; I have noted many of the different kinds of agencies that may be involved without absolutely clear lines distinguishing the boundaries and rules for inter-system referrals among them.

Systems of remediation presumably possess greater potential for approaching universality than control systems in that the individual victim has high motivation to seek the remedy they offer. One can think of a universal system of social compensation--and, indeed, some of the more elaborate welfare states, notably Denmark, have done more than think about it--in which all harms to individuals that exceed a certain threshold of impact on the ongoing well-being of the individual or family unit affected would be subject to state efforts at setting matters as right as possible by clinical care or compensation.

Medical systems for some time have been moving toward the ideal of universal entitlement to "everything possible" for the undoing of harm. They therefor are potentially a particularly good source of records for victimological investigations of events causing physical harm. Most of their potential in this regard, however, is destroyed by their not being organized in a coherent and systematic manner.

The development of crime victimization systems in the U.S. is a step in the direction of extending the compensatory system in the direction of universality with respect to encompassing criminal harms in remedial social systems. With its development, new systems of records regarding victimization have become available as data. But there are grave limits to the extension of such systems.

One of such limits is illustrated by the considerable popularity of models of the ideal society that are quite the opposite of those which would make all harms subject to organized social action--particularly state action. We can consider a Randian model (Ayn Rand, not the RAND Corp., which tends a bit more toward an intermediate position) in which everybody would only look out for oneself (and other favored selves)--there would be no offenders and no victims, just winners and losers. The social (as distinct from the individualistic) purpose of encouraging prudence and self-rewarding behavior is a limitation on the acceptability of universal victim compensation systems and leads them to incorporate in their models rather subtle (and nonobjective) principles of what was a harmful wrong not imprudently courted. In addition to the desire to avoid disincentives toward prudence, there is concern with incentives to false claims, and compensatory and remedial systems are concerned with fraudulent claims for compensation and with malingering claims upon care systems. In the U.S., we also have a wonderous mixture of systems of care and compensation. The decentralization, overlaps, and sectoral mixtures of such systems make them generally very poor sources of data. The private systems, such as the commercial insurance system and private medicine, safeguard their privacy and the proprietary character of their data. Casualty insurance data is now, for good reason, of scant use as research data for victimology. Medical care, with thousands of independent providers and hospitals without clearly bounded catchment areas or domains of responsibility make their records extremely complex for systematic data purposes.

The general point of the above discussion is that the problems of data are fundamentally problems of the organization of social action. The remedies for the problems of data availability, if they exist at all, are remedies of social organization. This may take the form of (1) reorganizing the character of the action systems, as in the case of the victim compensation programs, (2) grafting data record systems onto action systems, as in the case of the UCR, or (3) organizing completely independent systems of generating records specifically for data purposes. The victimization survey and notably, its embodiment in a system that aspires toward universal national scope, the National Crime Survey, illustrates well the last form.

The Victimization Survey

Elsewhere, I treated the victimization survey as a source of data for victimology in terms of its contraposition to the data of the systems of action intervention.

The potential vitues of the victimization survey approach for the study of victimology are not limited to remedying the selective recording of events in official data (Biderman 1967; Biderman and Reiss 1967). In that the survey is an ad hoc device for the purpose of systematic knowledge, it develops information on victims, offenders, and relationships between them (including those of the critical events) of far greater scope and detail, and in more directly usable form, than is the case with data from official records. Some advances of such surveys for victimology are as follows:

1. Unlike the official system, whose interest is not ordinarily in the victim cum victim, but rather as complainant or witness, the survey has the victim as its unit and focus. Thus, the unit of counting for victimization survey data is victimized persons or social units, not as in police statistics for property offenses or crimes wherein several persons (or many) may be victimized in the same incident and where information on the social unit victimized is often lacking.

2. Surveys yield victim risk rates directly--rates that are extremely difficult when not impossible to construct from police data for many classes of crimes. Surveys yield directly information on victim proneness as given by repeated occurrences of victimizations to the same individual, at least within the boundaries of the reference period used in the questioning, or, as in the case of panel surveys such as the NCS, for the duration of the respondent's retention in the panel.

3. Survey questions now regularly used develop information on the economic, physiological, and psychic consequences of the victimization event for the individual, as well as on the cumulative consequences of his exposure to hazards of victimization.

4. Interview schedules have included questions on both known and suspected offenders and the victim's assumptions regarding their motives, and even questions about the victim's surmises regarding the kinds of individuals who might have been responsible, where action systems limit their data on offending parties to information that has greater official standing.

5. Surveys investigate directly the relation of precautionary behavior (or lack thereof) of persons to their victimization experience.

6. Some surveys have asked respondents directly about their view of the role of their own behavior as contributing to the event.

7. By asking for their views regarding official actions that were taken or should have been taken toward the offender, surveys afford some indicators regarding the mobilizations of legal and moral sensibilities of the victim toward the offender and the crime, as well as regarding the effectiveness of formal agencies.

8. To the extent that students of victimology are interested in making judgments regarding the reasonableness of the official system in taking account of the responsibility or culpability of the victim, the survey method also provides a key type of data; that is, accounts of incidents in which the victim defined the event as a crime, but where this definition was rejected by the police so that the event never appeared in official registers of crimes. Victimization surveys have included questions on the disposition of complaints by authorities and the reasons therefore, as perceived and reported by the victim.

9. Unlike official statistics which make "yes-no," "black-white" discriminations, only, with regard to whether or not an event is tabulatable as a crime, data from a survey are open to being treated in a probabilistic manner that more accurately affects uncertainties of inference and judgment that often obtain. There may be ambiguities regarding critical objective features of the event (e.g., were objects lost or stolen?); or subjective features, (e.g., was the respondent injured accidentally or deliberately?); or in the application of normative judgements (e.g., was the act a justifiable response to provocation?). In the victimization survey conducted by the National Opinion Research Center (Ennis 1967), 7 percent of the incidents reported by respondents were judged "doubtful" and an additional 9.4 percent involved doubt in staff judgments of the criminality of the act. About 20 percent of the incidents reported by respondents involved one element or another of such doubt. For many purposes, such as analyzing the effect of experiences with crime on citizens' attitudes and behavior, or the cooperation received from authorities in resolving through investigation ambiguous events, such data are quite useful.

The victimization survey method, in theory, has such vast potential for meeting so many of all of the data needs of the field of

victimology that it has tended to be a target of quite extravagant expectations. While it undoubtedly is the single most important recent development in criminological methodology, and while it already has had profound results in reorienting the conceptual structure and problem agendas of the pertinent disciplines, it will be a considerable period of time before the revolutionary potential of the victim survey is realized. Furthermore, there are inherent limitations to the method such that victimology shall always have to have recourse to other sources for data on many of the important problems on its agendas.

Again, it will not be possible for me here to cover all of the problems inherent in the victimization survey methods in general, or even those that inhere in that particular application of the method by the federal government for general purpose victimization statistics through the mechanism of the National Crime Survey (NCS). At various earlier junctures in this paper, I have mentioned some of these matters and there is an extremely lengthy listing of issues and problems that is the subject of attention in a large program currently underway for redesign of the NCS. This program is being undertaken by a consortium of private institutions and the Bureau of the Census coordinated by the Bureau of Social Science Research, Inc. under contract with the Bureau of Justice Statistics of the Department of Justice. I will make mention here of matters to which I attach particularly great importance. They are matters that apply with equal force to most of our other sources that depend upon interrogatory methods.

The victimization survey is affected by a host of problems general to the sample survey method. The literature on these problems would fill many shelves. There is a large class of problems that relate to sampling--defining a population, devising a feasible sampling plan for it, implementing this plan with all the knitty, knotty problems of enumeration and contact such implementation involves, establishing the error structure for results both in terms of the random models and departures therefrom in the sampling plan, and to take account of the variable success achieved in implementing it. Sampling is the first among many decision points in the design of a victimization survey where tradeoff considerations must be confronted. The presence of these tradeoffs serves to illustrate an obvious conclusion regarding the survey method: No one survey or survey system, no matter how elaborate, can serve all the data purposes of victimology.

Respondent Behavior:--The survey method is dependent upon cooperation of respondents with it, almost always with no compensation except that intrinsic to the task and the social encounter. The motives of respondent cooperation are not terribly well understood, although civility to strangers, civic duty (particularly in the case

of government and public issue surveys), and simple curiosity appear to rank high among these motives. While respondents do not have strong intrinsic reasons to give false information to surveys, neither do they have strong extrinsic reasons for giving correct information. In what may be an astonishingly high proportion of all cases, respondents are sufficiently motivated not to refuse to be interviewed altogether. The NCS maintains completion rates in the high nineties (I will confess to being not altogether sure of how the Census Bureau computes these rates). There is a difference, however, between not refusing to be interviewed versus accepting all of the burdens of attitude and effort in the interview a particular survey wishes the respondent to assume. Being a "good respondent" can involve considerable positive effort at the demands of attention, question comprehension, recall and response verbalization. In surveys, such as a victimization survey that may venture into ego-involved and psychologically unpleasant areas of experience, as well as areas ordinarily within spheres of privacy, the survey interview expects respondents to abandon some of the ordinary norms of reticence and engage in full and frank revelation. The very motives the survey uses to enlist cooperation may affect adversely the quality of that cooperation as it relates to accurate and undistorted testimony. For example, the respondent who desires to be "nice" to the interviewer may be affected by "demand characteristics" of the interview--in the victimization survey, which transparently desires to get information on victimization, the respondent may invent the information desired, or, more likely, to distort recall of ineligible information to make it eligible, as in the well-known "telescoping-in" effect. (This is not the only possible psychological explanation of telescoping, however.) That the interviewer seeks to gain respondent cooperation by establishing a social relationship (which, according to Weber, involves the persons taking meaningful account of each other's behavior) means that the respondent is concerned with the effect of answers on the interviewer's regard for him. Where the respondent's motives are somewhat akin to the reasons for voting--that is, to have one's views, experiences and interests taken into account by the political process--the respondent may shape his replies to serve such ends. For example, a respondent who feels crime is the most important problem facing his community may not wish to reveal that he or she has suffered no victimization.

The future of the victimization survey method is bound up with the extent to which the survey institution as such can maintain the acceptance it has, as well as with the possible specific visibility and attitutdes toward a particular survey organization or instrumentality, such as the Census Bureau and the NCS. (Biderman, 1975b.) Considerable anxiety exists regarding the erosion of support for the

institution. The survey institution has also had in recent years to make accommodation to various conflicting norms and values of an individualistic sort, as reflected in laws and regulations to prevent "intrusions into privacy," to provide mechanical protections for privacy to replace those of trust, and to enhance various other "rights of human subjects." To some degree, although still a minor degree according to Singer's (1979) recent research, these provisions can convey signals in the interview situation either concordant or discordant with the attitude the survey institution tries to cultivate in its respondents; that one unquestioningly will answer all questions truthfully and undefensively.

Cannell and his associates at the University of Michigan Survey Rsearch Center have been experimenting with various deliberate devices that, in effect, will train the respondent attitudinally and cognitively to fulfill the respondent role consistent with the expectations of the survey method (Cannell, Converse and Oksenberg, 1979).

Another avenue of approach is to build in devices in the interview so that respondents do not have to rely as much upon trust to insure the confidentiality of the information they give and that make it less necessary for them to reveal to the interviewer facts about themselves that they would rather not reveal. The sealed ballot box technique is an old device of surveys for this end, as is the anonymous mail back (with or without "innocent" deceptions to permit case linkage--ruses that no longer are acceptable to ethical survey practice). Randomized response methods (RR) are wrinkles of later innovation--one that has had considerable, although not quite totally consistent, success in eliciting data on sensitive subjects.

We know that RR has worked well for various sensitive items, such as having had an abortion. It might also work well with regard to gaining information on sexual victimization. But it is important to ask questions that have yet to be asked about why it works. Depending upon why it works, quite different, more efficient and more universally useable alternatives to RR might be possible. It is more important to differentiate, to the degree that these effects are psychologically separable, the extent to which respondents reveal in RR questioning what they do not in direct questioning because:

1. RR gives them assurance that the confidentiality of the information will not be breached by the survey organization.

2. RR allows them to answer without experiencing embarassment in the face-to-face situation with an interviewer.

3. Increased task motivation due to interest in the novel game of RR.

4. RR results are to some degree spurious and reflect greater response error, of various types, in this somewhat complex task.

While research fairly consistently affirms the potential of such methods for response bias reduction (the major exception seems to be that RR works poorly for controlling false positive reports of "socially desirable" behavior--Bradburn and Sudman, 1979:13), my feeling is that evidence of the performance of RR on individual items may be a suboptimal basis for using RR extensively in surveys. Before we do this, I believe, we need to know more about how use of RR affects the attitude (and, hence, the behavior) of respondents to the particular survey situation in its entirety, and how widespread use of RR may, in the long term, affect public perceptions of the statistical survey as an institution. The gains an RR procedure may yield for a given item of information have to be weighed against its "externalities" for that survey as a whole. As professionals, we should also consider the potential externalities for the survey institution.

RR, however, is of small help with what appears to be the more consequential problem of the victimization survey--that is, where the memory system of the respondent seems to have insufficient reason to bring to recall events of the past that the survey questions seek information about and, occasionally, where the memory system has good, positive reasons to keep such events from recall.

We are giving primary attention in our current work on the NCS toward reducing the underrepresentation and the selective representation of pertinent victimizing events in the data it yields. Some such effects of response error will inevitably be present in data from this or any other survey. While we expend vast effort toward improving the data source, perhaps more should be directed toward how the inevitable presence of response error should affect data use.

I have been regularly distressed by published research making substantive use of data from the NCS by its almost total disjunction from the methodological research on response error. In turn, the methodological research fails to consider adequately yielding information on those aspects of error structure that may be most often important in its consequences for research uses. In using data, an investigator must attend both to what causes events to occur and what causes events to be represented in particular frequencies and in particular ways in a data set. Data sources should be sources of hypotheses for the investigator with regard to the latter statistical properties of the data as well as the former.

To take an example, we know that in a cross sectional victimization survey there will be a steep gradient in number of incidents by their temporal remoteness from the date of the interview, with

the curve being perturbated by telescoping effects. The longer the recall period, the more pronounced the gradient. In one fairly well known victimization survey, a three-year reference period was used, such that frequencies of victimizations in the earliest months were about 10 percent of those in the peak penultimate periods. Now neither the investigator who did this study, nor any other reasonably intelligent investigator, is likely to interpret such a distribution as a time series of rapidly increasing victimization rates over time. (The investigator in question did not report this distribution at all, but was kind enough to furnish it at my request.) But obviously, not all types of events in the set, nor all respondents, are equally affected by the "memory decay" function. Obviously, then, comparisons between classes of events and between classes of respondents are going to be affected by a severe bias when data from all periods are grouped together for analysis, as they were in this study. The investigator is in no position to explore validly any hypotheses about differences in, say, victimization proneness as between classes of persons, unless he also has a basis for answering questions about their differential proneness to fail to mention events in an interview with a given recall period.

An article I received this week on "multiple victimization" using NCS data displays the same obliviousness to response error--a particularly grievous fault in that the very type of binomial modeling which its author employs was employed in the earliest explorations of the victimization survey method to try to account for the very different results of different interview treatments in the distributions of number of victimizations mentioned by each respondent in an interview (Biderman et al., 1968). The article entertains no hypotheses whatsoever regarding response error functions, but interprets the distributions taking the data at face value. Although there is extensive speculative discussion in the victim survey methodological literature on the role of interviewing effects on these distributions, the topic remains undeveloped by empirical or experimental research.

Until there is greater sensitivity of data users for the error structures of the NCS and more information available about error, the potential of the great pertinence of these data for victimology will be a potential for misinformation as well as for enlightenment.

The recent work of R.A. Carr-Hill and N.H. Stern (1979) is an excellent example of the application of the approach to criminological data I am advocating here.

This is not a matter unique to the NCS; indeed, the potential virtue of the NCS is that there is greater awareness and attention to such matters where it is concerned than is characteristic for most other sources of data used in this field.

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