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Methodological Issues in the Measurement of Crime

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Attempts to assess the nature or frequency of crime using the survey method quickly encounter several conceptual, methodological, and procedural barriers. The problems and puzzles which make up these barriers have confounded efforts to generate reliable and valid measures of crime which are of utility to scholars or government officials. Here I review these barriers; most of my attention will be devoted to the National Crime Survey currently being conducted by the United States Bureau of the Census, if only because extensive methodological investigations have laid bare most of the shortcomings of that effort. These are five major difficulties facing those compiling "moral statistics" concerning criminal victimization.

Crimes (and especially serious ones) are infrequent events

When the U.S. Crime Commission considered conducting a victimization survey in 1966, this was a major concern. Official statistics at the time suggested that there were about 180 robberies for every 100 000 persons in the population. Given this apparently low frequency of events, very large survey samples would have been required to collect information on a sufficiently large number of them. Those who favored the surveys were convinced that the "dark figure" of unreported crime also was quite large, and that a national sample of 10 000 households would contain enough victims for study. The truth was somewhere in between. While the survey collected data on common property crimes which were sufficient to make accurate estimates of their incidence in the population, the number of victims of serious personal crimes who were located in the survey was painfully small.

The problem is more extreme in countries enjoying lower rates of crime. There random sample surveys of reasonable (and affordable) size cannot contact enough victims to make useful inferences either about rates of victimization or the characteristics of those affected by crime. For example, two surveys of Scandinavian countries questioning large numbers of persons (almost 2000 in Denmark and 1500 in Norway) about their experiences in the previous *two* years uncovered 84 and 45 victims of violence *or* threats, respectively¹. In Göttingen, Germany, Schwind² interviewed only 49 robbery victims out of a sample of 1170 persons. The sampling errors associated with national estimates of victimization rates made from such data are extraordinarily large, so large that it is unlikely that reliable

differences between the personal crime victimization rates of *any* two modern countries can be documented.

Victimization is unevenly distributed in the population

Not everyone shares equally the burden of crime, and the highest-risk groups often are relatively small ones. Also, they can be the most difficult to sample and locate. A goal of many attempts to measure crime is the identification of high-risk subpopulations and specification of their problems. Because these groups contribute disproportionately to the overall crime rate, the payoff to law enforcement officials would be substantial. Scholars and others interested in the effects of crime on fear and behavior also would enjoy detailed data on such groups as minority-group males, elderly citizens, and middle-class families moving back into America's central cities. Because these groups all are relatively small, general samples of the population will not yield sufficient numbers of them for analysis. Further, ordinary sampling techniques often fail to represent them even proportionately. The United States census of 1970, for example, appears to have undercounted black males aged 30-34 by 18%, and the National Crime Survey for 1974 appears to have reached only 68% of the targeted figure for that group³. Perhaps the most difficult-to-study group in any population are multiple victims, those who in a short period of time experience many encounters with criminals. They are not interviewed very frequently in any general population survey, although they contribute disproportionately to resulting estimates of victimization rates. The following table reports the distribution of victims of two personal crimes, robbery and assault, in the data from the first six months of the National Crime Survey for 1977.

Number of times victimized	Assault		Robbery	
	Number	Percent	Number	Percent
0	135,055	98.8	136,288	99.7
1	1,469	1.1	403	0.3
2	165	0.1	18	---
3	12	---	2	---
4	8	---	0	---
5	1	---	0	---
6	1	---	0	---
Total	136,711	100.0	136,711	100.0

Note: "---" indicates percentage less than 0.1%.

Source: Author's computation.

Note that despite the very large samples involved, very few persons recalled being victimized more than once (if at all) in a six-month reference period. On the other hand, this very important group contributed over 20% of all the assault victimizations reported in the survey. It should be clear, however, that general population surveys still are a very cumbersome and expensive way to study this very small group, and the sampling and measurement errors associated with their identification make it very hard to generalize about the results.

Crimes are furtive events

Successful criminals are those who elude detection by their victims, or who commit crimes with such speed and planning that they cannot be identified or described. Thus, even their victims often cannot reliably describe their attackers or their methods. For example, in the 1973 U.S. National Crime Survey data fully one-half of all victims of purse-snatchings could not identify the race or estimate the age of their attacker. In the case of burglary, many could not specify (even roughly) when the crime took place during the day or night. This severely limits our ability to identify crime patterns, or to use victim's descriptions to study offenders independently of police arrest statistics. By their nature, much data on crime will remain hidden from sight regardless of the method employed to collect them.

Victims are people: they may forget, lie, or make mistakes

There are in fact at least seven major problems here:

Not knowing. Not every victim knows that a crime has taken place. This is most frequently the case in commercial fraud and employee theft, and has limited the use of survey methods to study these important problems. Also, some studies used informants to gather data on the victimization of others. Often, however, it appears that they are ignorant of the events upon which they called to report. For example in his survey in Stuttgart Stephan⁴ questioned residents of 741 households. In some he interviewed all members of the family directly, while in others he interviewed only heads of households and asked them to report upon victimizations of other members of their family. Direct personal interviews proved to be almost 50% more productive of victimization reports. This finding duplicates that of a very large-scale American experiment on the effects of proxy rather than personal interviews⁵.

Forgetting. People tend to forget things with the passage of time, and cannot be expected to report reliably on all events which occur even in the recent past. For many crimes there is a very steep "forgetting curve" describing memory decay. As a result, even within a relatively short reference period few events are remembered which occurred in "distant" months, and more in those immediately preceding the interview. In their London Survey, Sparks, Genn and Dodd⁶ found that victims were more successful at remembering events which occurred within six months than those which took place as long as a year ago. In Germany Schwind⁷ found this effect most pronounced for less serious crimes. In this regard, it is important to note that the bulk of the Scandinavian victimization surveys seem to have employed a two year reference period, or even longer⁸. There

also is a tendency for people to forget the details of crimes which strike them frequently and repetitively (so called "series" victimizations).

Not Telling. The evidence is strong that many crime victims know things they do not tell even the most legitimate information-seekers. Methodological studies in the United States suggest strongly that victimization surveys particularly undercount the true frequency of violence among family members and those with whom one is acquainted⁹.

Misremembering. Victims make mistakes. They misremember in particular details of events like their date or the dollar amount of a loss. Methodological research indicates that victims are quite prone to recall the wrong date for criminal offenses, often moving it forward in time and closer to the date of the interview. In their survey in London, Sparks, Genn and Dood¹⁰ interviewed a small sample of known victims to discover how many would correctly recall their experiences. They found that only 55% recalled the criterion event with accuracy, while 20% misremembered the month in which the incident occurred and one-quarter did not remember it at all.

Lying. Victims may, for example, deliberately misconstrue their role in a crime, or the amount of a loss, or the identity of an offender. This may be common in crimes that involved victim complicity, or in "victim precipitated" crimes. The police often suspect the motives of complainants, and so should survey interviewers.

Differential Reconstruction of Events. Different kinds of people appear to interpret events differently. Because "crime" by its nature involves imputed motives and the imposition of definitions upon events by observers, these differences greatly affect the apparent victimization rate for key social groups. For example, both American and German surveys have found that assaultive violence strikes higher-status persons as frequently, as those in lower-class groups. This does not accord with police statistics or with victimological theory. Egon Stephan (no date), in his study in Stuttgart, concluded that these unexpected findings reflected differences in "sensitiveness toward criminality on the part of upper- and lower-class persons". By inference, events which seem menacing to persons unaccustomed to physical violence may not seem worthy of recalling in surveys by those who are. Stephan¹¹ also suggests that this "sensitivity to crime" is more highly developed among residents of Stuttgart than those of large American cities, where everyday violence is routinely experienced. He found, for example, that Germans were more likely than Americans to recall unsuccessful or uncompleted crimes.

Differential Interview Productivity. Research on survey methodologies indicates that differences among both respondents and interviewers can affect the quality of data. It is clear that there are tremendous differences between interviewers in their ability to elicit reports of victimization from respondents and in their ability to assist respondents in untangling the events which make up series victimization. In surveys in American cities this interviewer effect often approached or even exceeded the variability due to sampling error¹². In addition, it is likely that some respondents are better than others at comprehending the interview process, understanding the purpose of research, and cooperating with interviewers. This may account in part for the suspiciously weak or even positive correlation between education and victimization by violence in American¹³, German¹⁴, Dutch¹⁵, Norwegian, Danish, Swedish, and Finnish¹⁶, surveys. Finally, there apparently are complex interaction effects among respondent and interviewer characteristics which affect the productivity of interviews as well¹⁷.

Not all crimes are discrete events; many are conditions, which are difficult to count

We think of crimes as events – clusters of effort which have a beginning, some characteristic activity (so we can class it as a “robbery”, or another specific crime), and a conclusion. We see these events as bounded in space and time. However, many things which are recorded as crimes are merely observations of continuous rather than discrete activity. What observers count as incidents are simply instances of ongoing disputes, conflicts, or predations which have come into the view of the recorder. Several crimes which have recently come to the attention of the American public fall into this category, including child abuse, wife abuse, and robberies of children in school. A common commercial crime in this category would be price-fixing. Because these are continuous or enduring conditions rather than discrete events, they are difficult to count in conventional fashion. We usually do not know about them in the absence of someone being identified to be arrested, for personal crimes in this category often are characterized by close (or at least regularized) relationships between the parties, while property offenses only come to light when an offender is identified. As this suggests, things in this category share all of the barriers to reliable measurement identified above, in addition to their intractability with regard to conventional accounting practices.

Conclusion

All of this suggests that in order to gather valid and reliable data on crimes and victims it will be necessary to solve several major classes of problems. It should be noted that, with the exception of the “frequency of events” problems, these problems all affect *other* ways of measuring crime as well, including official police reports and self-reports of offending. Decisions about how to face them will play a large role in shaping the data which emerges, and will limit the kind of things which may be done with them. The conceptual problems revolve around the question, What is a crime?; the methodological ones around, How can we measure its frequency?; and the procedural ones around, How can we best use respondents as informants to tell us about events?

Notes

¹ Cf. Wolf, 1976.

² Cf. Schwind, 1975.

³ Cf. National Research Council, 1976: Table 6.

⁴ Cf. Stephan, 1975.

⁵ Cf. U.S. Department of Justice, 1974.

⁶ Cf. Sparks, Genn, Dodd, 1977.

⁷ Cf. Schwind, 1975.

⁸ Cf. Wolf, 1976b.

⁹ Cf. Turner, 1972.

¹⁰ Cf. Sparks, Genn, Dodd, 1977.

¹¹ Cf. Stephan, 1975.

¹² Cf. Bailey, Moore, Bailar, 1978.

¹³ Cf. Dodge, Lentzer, Shenk, 1976.

¹⁴ Cf. Stephan, 1976.

¹⁵ Cf. Steinmetz, 1979.

¹⁶ Cf. Wolf, 1976.

¹⁷ Cf. Phillips, 1972.

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