Lies, Damn Lies and Arrest Statistics

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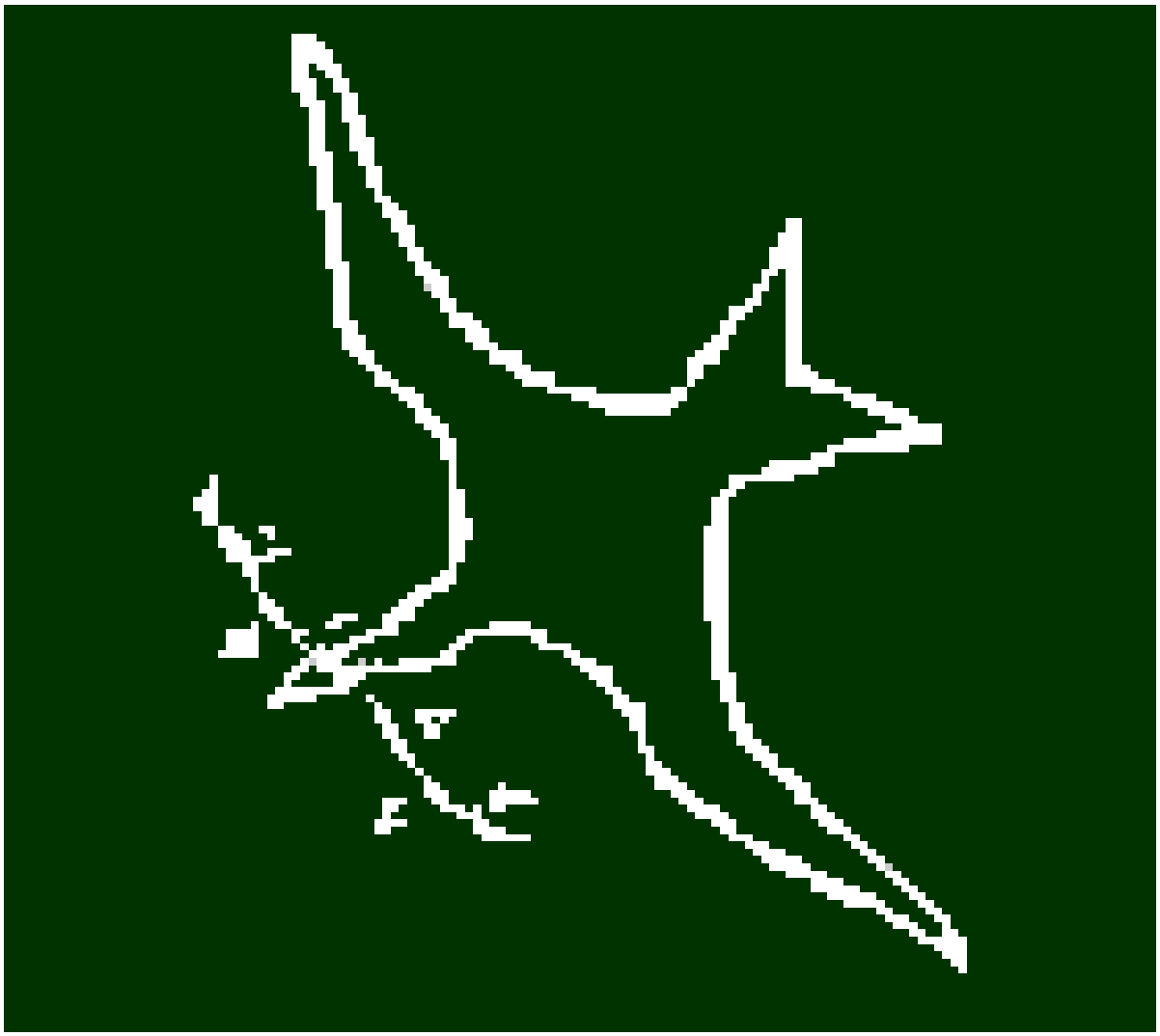

Center for the Study and Prevention of Violence

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INTRODUCTION[1]

In 1963, John Kitsuse and Aaron Cicourel published an article on the appropriate use and reliability of official data. This seminal article highlighted the important logic and conceptual distinction between arrest, court disposition, incarceration, and other measures of justice system organizational activity on the one hand and criminal behavior on the other. This article was a plea to recognize that while arrest and court records are appropriate and reasonably reliable measures for studying the activity of criminal justice agencies, they are problematic when used to describe patterns of criminal behavior, characteristics of offenders and their patterns of offending (see also Hindelang, 1974a, 1974b; Inciardi, 1981; Inciardi & Chambers, 1972; Morris & Hawkins, 1970; Snyder & Sickmond, 1995; Sutherland & Cressey, 1970; Wheeler, 1967).

Thirty years later it is distressing to see that this distinction has been largely ignored. A large segment of the contemporary criminal research community continues to use arrest records to study the etiology of criminal behavior; to describe the epidemiology of delinquent behavior; to describe the dynamics of offending in the study of criminal careers; and to validate other measures of criminal behavior such as self-reported measures of crime.

Indeed, most of the research on the parameters of a criminal career utilizes arrest data to estimate the underlying behavioral dynamics of criminal activity. We have fallen into bad habits. I have no quarrel when these data are used to describe the activity of various justice system agencies and changes in the social responses to criminal behavior; or even to generalize individual characteristics and offending charge patterns to arrest populations. It is the generalization of findings from analyses of arrest records to the underlying patterns and dynamics of criminal behavior and characteristics of offenders in the general population which concerns me as they are likely to lead to incorrect conclusions, ineffective policies and practices and ultimately undermine our efforts to understand, prevent and control criminal behavior.

False Positive and False Negative Errors in Arrest Records

First, let's quickly dispense with the naive assumption that arrest records are inerrant (Hindelang, Hirschi, & Weis, 1981). Clearly there are serious false-negative problems. These are of two sorts: the failure to find an arrest when the individual is involved in criminal activity and the failure to find an arrest record when in fact the individual has been arrested one or more times but the information is not in the arrest repository being searched. Few would deny that there are serious false-negative problems of the first sort. Most criminal acts do not result in an arrest and no partitioning of samples on the basis of having or not having an arrest can be assumed to have partitioned non-offenders and

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offenders. Most researchers acknowledge this source of error, but this practice is still common. There are also significant levels of the second type of false-negatives in most local, state and national arrest repositories that researchers use to obtain arrest record information. In an excellent review of this type of error in rap sheets, Michael Geerken (1994) concludes: (1) local rap sheets should **never** be used alone and statewide rap sheets should be used with great caution because the false negative rate is high and, more importantly, it is related to race and age; (2) that as many as 27% of arrests never get into fingerprint repositories like the Federal Bureau of Investigation (FBI); and (3) that nearly 20% of index arrests involve more than one index offense which goes uncounted in the record. These are not trivial levels of error in arrest records and the error produces exaggerated race and age differences, whether used to estimate parameters of criminal behavior or arrest.

More researchers are inclined to accept the false-positive inerrancy of arrest records; the assumption that if a person has an arrest record, we know for certain that they committed the offense described in the charge. It is this assumption that led Hindelang, Hirschi and Weis (1981) to conclude that a lower correspondence between self-reported and official offending on the part of blacks as compared to whites was evidence of a differential validity in black/white self-reported criminal behavior.

Having worked with actual records at the local level to check records against respondent names and other identifiers, obtain accurate disposition data from arrest records or court documents, understand what behavior is being described by the arrest charge, and attempting to match it to self-reported behavioral descriptions like those on one of our standard self-reported data check lists, it is hard to imagine that researchers put faith in the accuracy of arrest records. I refer you again to Geerken's (1994) article on the use of rap sheets in criminological research for a brief review of official agency practices in establishing and maintaining arrest records. While it is hard for us to imagine, the fact is these records are not developed, organized or maintained for us, i.e., to facilitate research.

In a recent wave of the National Youth Survey (NYS) we showed all respondents their rap sheets and asked them to confirm each arrest record. Many were shocked, some became angry and others volunteered that we had missed an arrest or two. Overall, 27% of arrests were challenged by our respondents. In most cases, respondents acknowledged the arrest event, but claimed that it was unfounded, a mistake of some kind, and that they were told these charges had been dropped and they never went to court. I recall that one school teacher in Kansas was horrified, claimed the charge was unfounded and was dropped, and said if the local Board of Education found out she had an arrest record, she could lose her job. Another young man told us that he had purchased a motorcycle from a private party and had an accident on his way home. He was unconscious at the scene and was taken to the local hospital. The next day two police officers came to arrest him for a vehicular theft, as they could find no evidence that he owned the motorcycle. They then called the original owner and verified his story. He never heard anything more about it until we showed him his rap sheet with an arrest for vehicular theft. When we checked again with the relevant police agency, we were told that his story might well be true as they almost never clean records from their files or correct them to reflect such an outcome and at this point in time they had no way of verifying what happened.

There is no attempt in most police jurisdictions to go back and correct errors in the arrest record; the disposition of an arrest often involves a change in the charge and this change is rarely made in the original arrest record. When this type of error is combined with discrepancies between the behavioral act and the charge in the arrest record, the use of false identities, same names in the files without other identifiers like birth dates, fingerprints, etc., the admitted cases of evidence planting "a la" Mark Fuhrman, the false positive rate is likely to be substantial. Arrest records, like more direct

measures of criminal activity based on self-reports or observations, have some error. It is substantial when these data are employed to measure police activity in response to reported or observed criminal behavior; it is unacceptably high if such records are used to estimate criminal activity in a general population.

The Assumed Representativeness of Arrest Samples

Many of you would acknowledge the above problems associated with the use of official records as a measure of criminal behavior. The claim that most criminal behavior does not result in an arrest and that there are potentially serious levels of error in the arrest records utilized by most researchers is fairly well accepted. Why then do we go on using arrest records to study the distribution and dynamics of criminal behavior, its onset and termination, and its causes? There is, I think, the belief that the errors in arrest records are primarily false positive errors, errors of omission, and that persons arrested, while a small subsample of persons actually committing offenses, are nevertheless a representative sample of all active offenders; and that their arrest charges are a representative sample of the actual offenses being committed in the general population (e.g., see Cohen, 1986; Lattimore, Visher, & Linster, 1994). More sophisticated researchers would describe this assumed "sampling" as much more complex, akin to a complicated probability sampling with unequal chances of selection by type of offense and certain other (as yet unspecified) offender and offense characteristics, acknowledging that we do not yet know how these rates differ. This approach typically makes some assumptions about these sampling rates, applies the necessary weighting to the arrest data, and then generalizes findings to the underlying criminal behavior in the population (Blumstein, Cohen, Roth, & Visher, 1986; Lattimore et al., 1994). Although more complex, the assumption of representativeness is still made.

I would like to focus upon this assumed representativeness of arrest records by comparing arrest and self-reported estimates of several criminal career parameters. Self-reported data have their own sources of error and should not be accepted uncritically (Elliott & Huizinga, 1989; Huizinga & Elliott, 1986). But conceptually and operationally they are more appropriate measures for studying the causes of criminal behavior and describing the distribution and dynamics of criminal behavior in a general population. Subject to some variation, the validity of self-reported offending based on "known" arrests is about 80%. Validity of arrests based on "known" self-reports is as high as 25-50% for serious offenses and as low as 1% for minor offenses. Given that arrest and self-report data produce different distributions of offenders and offenses in the general population and specific subpopulations, self-reports are likely to produce the better estimates. But even if you disagree with that judgement, the comparison should be informative and give some evidence for accepting or questioning the use of arrest data for this purpose. It will at least highlight where these two sources of data provide similar findings about the dynamics of criminal careers and where they provide disparate findings.

Data for this comparison come from the NYS and involve individual arrest and self-reported criminal behavior histories from 1976 to 1990 (waves 1-8) for a national probability sample of persons aged 11-17 in 1976. Our focus in this comparison is on serious offending, i.e., on index offenses, as arrests and self-reports for these offenses tend to be more reliable (Huizinga & Elliott, 1986). The official record search initially involved each police jurisdiction in which respondents lived for a year or longer and all jurisdictions in a 10-mile radius of each respondent's home jurisdiction. This local search was followed by a National Crime Information Computer (NCIC) search for each respondent and his or her parents.

Participation Rates

First, a quick summary of race and gender differences in the ever-prevalence of index arrests and self-reported offending between 1976 and 1990. Ten percent of males and 1.5% of females had one or more Part I felony arrests over this period. Four percent of whites, 11% of Hispanics and 15% of African Americans had Index felony arrests. The overall gender ratio was nearly 7:1 (6.7); the Hispanic-Anglo ratio is 2.5:1 and the black-white ratio is approximately 4:1. Among males, the black-white and Hispanic-Anglo ratios are both 3:1. These ratios are similar to those based on the FBI's Uniform Crime Reporting (UCR) arrest statistics for annual arrest rates.

In comparison, the male/female ratio in ever-prevalence of self-reported index offending is only 3:1 (48% vs. 18%) and both the male black-white and Hispanic-Anglo ratios are close to 1:1 (1.24 and .94). Remember this is an ever-prevalence estimate which is unaffected by the length of one's criminal career or the total number of offenses committed. Both gender and ethnic/race differences in ever-prevalence are substantially greater in arrest records than in self-reported data, and the race/ethnic differences are particularly striking. We'll return to this issue later.

Individual Offending Rates

A number of local studies have examined the relationship between the number of arrests and self-reported offenses, essentially a comparison of individual offending rates (Rojek, 1983; Gould, 1969; Bridges, 1978; Hirschi, 1969; Hindelang et al., 1981). When actual frequencies were used (or some log-transformation of frequencies), the correlations were generally quite small.

In the NYS, the range in individual frequency of index arrests was from zero to 15 with a mean individual arrest (offending) rate of three; the range of self-reported index offending was from zero to 579 offenses with a mean individual offending rate of 13. [Individual offending rates refer to the average number of offenses per active offender]. The correlation between the **frequency** of index arrests and self-reported index offenses was .30, a relatively modest relationship which is nevertheless substantially larger than reported in earlier studies. The correlation of arrest and self-reported **individual offending rates** was .38. Treated as a reliability coefficient between two measures of the same construct, .38 is unacceptable by most standards. Using arrest rates as a predictor of the underlying frequency of offending is equally poor, with arrests "explaining" 9-14% of the variation in self-reported frequency or individual offending rates.

The "Worst Offender" Hypothesis

The size of this relationship raises some questions about the "worst offender hypothesis," i.e., that self-reports and arrests identify the same people as the worst offenders in any given population (Farrington, 1996). This hypothesis was examined by identifying a chronic, high frequency arrest group and a self-reported index offender group. The worst 20% of persons arrested for an index offense were those with five or more arrests (Mean = 8.6) for index offenses. The worst self-reported offender group included those reporting 78 or more index offenses. These groups were selected to contain the same number of worst (i.e., high frequency) offenders from the two data sources. The overlap between these two worst offender groups was not particularly high. Less than a quarter of the worst arrest offenders were in the worst self-reported offender group, i.e., had self-reported frequencies of 78 and greater; over 75% of the self-reported worst offenders were not in the worst arrest group, i.e., they had fewer than five index arrests even though they reported 78 or more index

offenses. This analysis provides relatively weak support for the worst offender hypothesis. In essence, the individual arrest rates for index offenses do not appear to be representative of individual self-reported offending rates. And the worst self-reported offenders are not well identified by a high arrest rate.

Offense Patterns

The offense mix or pattern of offenses in the repertoire of serious offenders was also quite different, depending upon which data are employed in the analysis. The most frequent index offense in the arrest histories (N=327) of index arrestees was a burglary (51%), followed by a felony theft (14%), aggravated assault (14%), robbery (13%), auto theft (7%), and rape (1.5%). The most frequent offense in the self-reported index offender's repertoire (N=7,157) was a robbery (32%), followed by aggravated assault (23%), burglary (18%), felony theft (15%), auto theft (8%) and rape (3%). The proportion of auto thefts and felony thefts are similar in both data sets; but there were substantial differences in the proportion of offenses that were burglaries, robberies, aggravated assaults and rapes. The arrest history compared to the self-reported history, seriously overstated the proportion of burglaries and greatly understated the proportions of the serious violent offenses in the crime mix. In general, there is a more even distribution of index offenses in the self-report as compared to the arrest histories.

Specialization

The specialization hypothesis was also examined with both data sets. This analysis again involved those with five or more arrests for index offenses. Specialization was defined as a pattern of charges in which one type of offense occurred at least twice as often as all other index offenses in the crime mix combined. In our worst arrest group, 33% met the specialization criteria. The vast majority of these individuals specialized in burglary.

Looking at the self-reported index offending patterns of those defined as specialists, none of them would have been classified as a specialist. There is a surprising over-representation of burglary charges in the arrest data, suggesting this is a specialization when it is rarely a dominant offense in an individual's self-reported pattern of offending. Most of these burglary specialists were quite versatile, reporting involvement in four or five different index offenses; in only one case was the self-reported frequency of burglary even the highest frequency index offense in the repertoire.

Using the same criteria for defining specialization, two of those not meeting these criteria with arrest offenses, were classified as specialists by their self-reported data. One was specializing in burglary with 194 reported burglaries, 32 robberies, 41 aggravated assaults and nine auto thefts. He had five arrests for burglary, six for robbery, and one each for felony theft, aggravated assault and rape. Another specialized in aggravated assault with 20 reported assaults and two arrests for assaults (along with six burglary arrests and two felony theft arrests). Using arrest records to predict self-reported specialization, the false positive rate is 100% and the false-negative rate is 36%. The overall accuracy is 57%.

Career Length

Finally, the career length of arrest careers and self-reported careers were compared. The number of years of active offending based upon arrest histories ranged from 0-6 years; with self-report data it

was 0-14 years. The correlation between the arrest career length and self-reported career length in the entire sample was .39; when the analysis was limited to those with a career length of one or more in both data sets, the correlation was .48. The relationship between arrest and self-reported career lengths, like that for individual offending rates, is modest. It is stronger for career length when considering only those in the population who have some involvement in index arrests and self-reported behavior. Still, knowing the length of one's arrest career does not allow one to predict very accurately the length of the underlying career in serious criminal behavior.

Summary: Criminal Career Comparisons

With respect to participation, individual offending rates, offense patterns, specialization, onset and the length of one's criminal career, arrest histories give us a substantially different picture than results from using self-reported data in this national sample. With the latter, participation rates are higher, race and gender differences much less pronounced, individual offending rates are higher and only moderately related to arrest rates, the pattern of index offenses is substantially different with fewer burglaries and more serious violent offenses, there is little evidence for specialization and the onset of a career in serious offending starts earlier and lasts longer. While I have not yet made the formal tests, it is very likely that the differences in estimates from the arrest and self-report data will be statistically significant, i.e., the samples will be judged to have come from different populations and generalization from one to the other unwarranted.

Probabilities of Arrest

One of the conclusions in the article by Kitsuse and Cicourel (1963, p. 139) was that by recognizing the conceptual distinction between criminal behavior and official reactions to this behavior and developing measures appropriate to the study of each, the two processes can be studied within a single conceptual framework and within a single study. I believe this is the direction we should take in the future (e.g., see Stouthamer-Loeber, Loeber, Van Kammen, & Zhang, in press). The use of both measures in a single study permits the estimation of some criminal career parameters that describe the intersection of criminal behavior and official responses to that behavior, e.g., the probability of arrest given involvement in a specific type of criminal activity.

A final analysis reported here uses both self-reported and official data as measures of distinctly different phenomenon and examines how they intersect. This intersection involves an estimate of the probability of arrest per offense for three different violent offenses: robbery, rape and aggravated assault. This analysis assumes the validity of both the arrest reports and the self-reports of these very serious violent offenses. These specific offenses were chosen because their estimates are more reliable than those for less serious offenses (Huizinga & Elliott, 1986). The probability of arrest is calculated as the total number of arrests for each of these offenses divided by the total number of self-reported offenses of each type between 1976 and 1990. There was no attempt to match arrests to a particular self-reported offense in this analysis.

Overall, the probability of arrest per self-reported serious violent offense was .02. There were two arrests for every 100 reported aggravated assaults, robberies, and rapes. The arrest probability was .03 for males and .01 for females. The probabilities for males were similar across these three offenses, .03 for rape and aggravated assault, .02 for robbery. When self-reported violent offenses were restricted to more serious offenses, i.e., offenses that involved either a weapon or an injury

serious enough to require medical treatment, the probabilities of arrest increased substantially, to .09 for robbery (males) and .04 for aggravated assault (males).[2]

Arrest probabilities were also calculated by race for males. This calculation requires the assumption that black and white self-reports are equally valid, an assumption which has been challenged by Hindelang, Hirschi and Weis (1981) primarily on the basis of a test of the concordance between known arrest charges and self-reported offenses. The evidence from this type of validation is, in fact, quite mixed, with several studies finding no differential concordance by race (Hardt & Peterson-Hardt, 1977; Rojek, 1983) and several finding a significant race difference in concordance (Hindelang et al., 1981; Hirschi, 1969; Huizinga & Elliott, 1986). But note that the conclusion of a differential validity by race in this type of analysis hinges on the assumption that official arrest records have no differential validity by race, an assumption seriously challenged by Geerken (1994) who concluded that there were serious racial biases in local arrest records which overstate the arrests of blacks relative to whites. The Hirschi, Hindelang et al. and Huizinga and Elliott analysis involved just such local arrest files. Further, other approaches to assessing the validity of self-report measures, e.g., polygraph and psychological stress analyzer analyses (Clark & Tift, 1966; Hindelang, et al., 1981); correspondence between peer reports and self-reports (Gold, 1970); analyses of the seriousness threshold used in reporting criminal events (Hall & Elliott, 1991); and tests of predictive validity (Huizinga & Elliott, 1986), have all failed to show significant race differences. Finally, while the black-white ratios in self-report index offending are typically 3:2 and the index arrest ratios are 4:1 during the adolescent years, these two ratios are identical (4:1) during the adult years (Elliott, 1993). If the discrepancy during the adolescent years is explained by a race differential in the validity of self-reports, this tendency of blacks to under report somehow magically disappears in the early adult years. In sum, I am not convinced that African American males are more likely to under report their criminal behavior than are white males. In any event, the following estimates of race-specific probabilities of arrest assume there is no differential validity in either the arrest or self-reported data.

Probabilities of arrest by race were estimated for robbery and aggravated assault for males. Self-reported robberies and aggravated assaults were again limited to those involving a weapon or injury. For robbery, the arrest probabilities are .04 for white males and .29 for black males; for aggravated assault they are .02 for white males and .11 for black males. For both offenses, black males are approximately six times as likely to have an arrest for a self-reported violent offense as are white males over their adolescent and early adult years.

Hindelang et al. (1981) report relatively small black-white differences in self-report under reporting by race for these two offenses; a black-white ratio of approximately 1.3:1 for each. Even if we assumed a 2:1 differential in the validity of self-reports and adjusted these probabilities of arrest for this effect, a substantial difference in the probability of arrest by race remains. Any correction for the

[2] We could not make this adjustment for seriousness of self-reported rapes. Further, the N's were too small for calculating reliable estimates for Hispanics or other racial/ethnic groups.

under representation of whites in the arrest records would increase the race differences in probability of arrest although our record search was a national one and did not depend solely upon local arrest records.

Discussion

Three observations seem warranted. First, the probability of arrest for these very serious violent offenses is very low, even when self-reported offenses were restricted to those involving a weapon or injury. For males, less than 10 arrests per 100 self-reported robberies and less than five arrests per 100 aggravated assaults. Further, over this entire 14-year period, less than 10% of the most serious violent offenders in the NYS (Elliott, 1993) were ever arrested for a serious violent offense. The risk of apprehension is extremely low. No wonder increase in the severity of criminal sanctions has so little deterrent effect.

Second, given the small proportion of violent offenders who ever appear in court for a serious violent offense charge, the maximum potential incapacitation effect on general rates of violence in this country is small. The only hope for a truly significant impact on the rates of violence lies in primary prevention.

Third, the race differentials in this analysis must be viewed with some caution because of relatively small numbers of African Americans in the NYS sample. Still, the magnitude of this difference raises questions about different official responses to violent offending on the part of white and black males. There are a number of possible explanations for this: (1) our controls for seriousness were inadequate and there are other qualitative differences between black and white offenses; (2) the probabilities of detection are different with white offenders having lower visibility in the justice system; (3) victim decisions to report a violent act may be related to the race of the offender; and (4) the racial under reporting bias in self-reported data is far worse than we thought. In any event, in the NYS sample, blacks have an elevated risk for arrest, and there may be some justification for the distrust of the police within black (and other minority) communities.

Conclusion

I am not arguing here that we discard or abandon the use of officially generated crime measures. That is not the point. Rather, I am arguing for a more appropriate use and careful interpretation of such data. Arrest, conviction, and incarceration data are most appropriately viewed as measures of official response to criminal behavior. The analyses presented here indicate that those entering this system are <u>not</u> a representative sample of offenders in the population and findings from arrest samples should not be generalized to offenders or offenses in the general population. In their review of the appropriate use of arrest data, Hindelang, Hirschi and Weis noted:

> If variations in likelihood of arrest are related not only to the offense but also to individual characteristics that might then be interpreted as causes in variation in delinquent <u>behavior</u>, the consequences for etiological research could be serious. (1981, p. 20).

I believe this is the case. And it is serious for <u>both</u> epidemiological and etiological research on criminal behavior.

The self-report and arrest comparisons presented here involve a single national study. We should thus view any specific findings with caution until they are confirmed by additional research. But even if you are unconvinced about the inappropriateness of official data for studies of criminal behavior, it should be clear from the NYS, and other general population self-report studies, that arrest and self-reported data provide substantially different pictures of onset, developmental course, offending patterns, specialization, and termination of criminal behavior. To rely almost exclusively on arrest studies when describing the dynamics of criminal behavior, is indefensible.

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