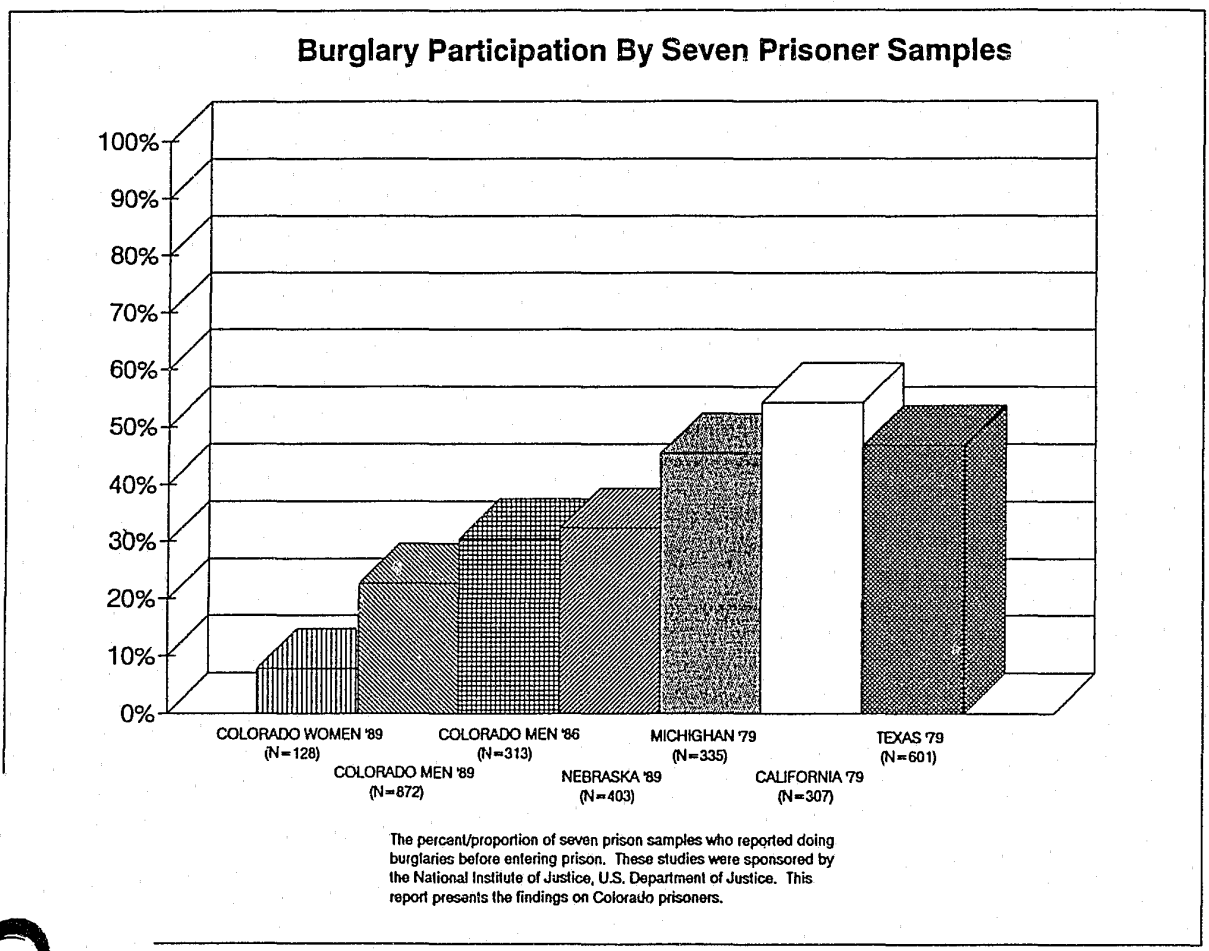
MEASURING CRIME RATES OF PRISONERS



The percent/proportion of seven prison samples who reported doing burglaries before entering prison. These studies were sponsored by the National Institute of Justice, U.S. Department of Justice. This report presents the findings on Colorado prisoners.

Colorado Department of Public Safety
Division of Criminal Justice
Office of Research and Statistics

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MEASURING CRIME RATES OF PRISONERS

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EXECUTIVE SUMMARY

Overview

Crime rates are important statistics in the criminal justice system. Currently, there are three fundamental methods used to gather this information. The first, The Uniform Crime Reporting (UCR) Program began in 1930 collecting data on arrests and reported crimes from 400 participating law enforcement agencies. Today, the UCR program collects this information from over 16,000 agencies (MacKenzie et al, 1990). The second method is that used by the National Crime Survey (NCS). NCS began tracking crime in 1970 by asking 60,000 citizens, every six months, if anyone in their home had recently been the victim of a crime. In the late 1970s, the RAND Corporation pioneered the third method of collecting crime rate statistics. They obtained reports of offending behavior--types and frequencies of crimes committed--directly from offenders serving prison sentences (Petersilia et al; Peterson et al, 1982; Chaiken and Chaiken, 1982). Obtaining crime rate data from inmates is exciting (who best could inform us about criminal activity than active participants?) and controversial (are the reports reliable?).

Excitement over the third method also stemmed from the potential--even "promising"--applicability of self-report data to practical criminal justice and criminological problems. After Chaiken and Chaiken (1982) determined that a small proportion of the sample was responsible for the vast majority of crimes reported in prisoner surveys, public policy debates grew. Discussion about selective (versus collective) incapacitation strategies as a method of crime control increased (Greenwood and Lavin, 1982). Controversy ensued because of the (1) technical inability to prospectively identify high-frequency offenders, (2) ethical issues involved in sentencing individuals based on probabilities of future criminal activity, and (3) serious concerns about the reliability of prisoners' self-reports of criminal behavior.

Our experience with reports of individual crime rates obtained from Colorado prisoners in 1986 (Mande and English, 1988) indicated that the *method* used to obtain the data (self-administered, confidential questionnaires) was plagued with problems. If data collected in this manner are ever to be of value for policy purposes, the method itself deserves considerable attention first.

In this study, we examined five different ways researchers could obtain sensitive self-report crime rates from prisoners: (a) using an "improved" version of the confidential, written questionnaire used in the 1986 study, (b) administering the questionnaire under anonymous instead of confidential conditions, (c) using a shortened version of the self-administered questionnaire, (d) using an automated version of the questionnaire where inmates enter their answers directly using laptop computers, and (e) administering the questionnaire in two different locations in the prison setting, one more and one less "neutral." Also, for the first time in the history of prisoner self-reported crime rate surveys, we included female prisoners in the study sample.

Our purpose was to explore the extent to which variation in the methodological approach affected prisoners' reports of criminal activity. If the crime rates varied across methods, we would consider the data to be unreliable. On the other hand, if the findings remained constant across methods, perhaps one of the new techniques we developed would be easier and/or less expensive to administer. Currently, collecting data from prisoner samples is a costly, labor-intensive effort.

Findings

1. *How best can we understand the self-reported crime rates that are the crux of this study?*

Individual, prisoner-reported crime rates have two important characteristics: (1) extremely high variation in offending frequencies, and (2) they may likely reflect the activity levels of society's most active offenders. Because of these features, using specific crime rate values as if they are exact measures of activity would not be prudent. Therefore, these data may be used best to describe *categories* of offenders (low, medium or high level of activity, for example), Non-technical readers must remember that--as a consequence of the methodological issues detailed in this report--the rates reported are likely to be artificially inflated.

2. *Were there differences in study findings between the 1986 Colorado Replication Project and the 1989 Colorado Prisoner Survey?*

We found evidence that crime participation rates are sensitive both to cohort differences between the study samples and to measurement effects. Participation rates in the 1986 and 1989 studies were very similar except for expected differences in burglary and theft. Burglary findings appear to be associated with the fact that there were fewer convicted burglars in the 1989 sample, and that the questionnaire had been altered to improve respondents' understanding of the definitions of burglary and robbery. Theft differences appear to be the result of instrumentation effects (changing crime descriptions).

Because of certain modifications in the questionnaire design (detailed in Chapter 4), we expected the crime frequencies we obtained in 1989 to be higher compared to the 1986 frequency rates. We were surprised to find just the opposite. This finding appears to be the result of a methodological feature and changes in criminal justice processing of certain types of cases or actual changes in offending behavior over time (the study was not designed to separate out these last two effects). The methodological artifact stems from raising the threshold for theft participation to exclude petty, but often very high rate, thieves, thus changing the composition of the "active" sample of prisoners. The criminological factor is that the 1989 sample appears to contain more moderately aggressive/violent offenders compared to the 1986 sample. This group tends to be responsible for fewer crimes overall. Consequently, the 1989 Colorado offender survey indicates that offenders entering prison had lower crime rates compared to the group entering prison in 1986.

3. *Were there differences in reported participation and frequency across the different data collection and survey administration methods?*

We found few differences in crime participation rates across the methods explored here. There were some race differences in reported participation. Blacks tended to report higher participation rates using the anonymous version of the survey. This difference requires further investigation. Most respondents using the shortened-version of the survey instrument reported higher participation rates suggesting that we do not lose information with this more expedient method of data collection.

The crime frequency estimates remained fairly stable across the different methods of data collection. Also, no differences were found across race, age or education. The anonymous version obtained some extremely high crime frequencies compared to the other methods. We do not know if this reflects more accurate or more exaggerated responses. The shorter version

of the survey instrument generated somewhat higher reports of drug dealing, but we found no other differences in reported frequency rates across methods.

These findings suggest that the shorter version, which can be administered in one-half to two-thirds the time, is equivalent to the standard questionnaire--an important consideration in selecting a method for collecting self-reported crime rate data.

4. *Were there gender differences in self-reported crime rates of prisoners?*

Until the current project, studies of prisoners' self-reports of crime have not included women, thereby limiting the generalizability of the findings to men. While some differences were reported, particularly in terms of the *type* of crime respondents engaged in, our most important findings is in activity across gender: we found the familiar skewed offending rates among female prisoners, with most of the sample reporting very few crimes while a small proportion reported extremely high rate activity.

In terms of differences, slightly larger proportion of the women compared to the men reported participation in the study crimes. More women reported committing only one type of crime compared to men, while twice the proportion of men than women reported committing in four or more types of crimes. The auto theft participation rate for women was half that of men, and participation in theft and fraud was significantly higher for women. These differences may reflect cultural influences on the criminal behavior of men and women. Race differences within genders on employment and educational dimensions suggest differential socio-economic marginalization that might be correlated with criminal activity.

5. *Did different question formats generate different information about crime participation and frequency?*

Participation rates changed when the definition of the crime was changed. Also, asking about criminal behavior during smaller versus larger increments of time (weekly versus monthly) affects responses: smaller increments lead to higher, perhaps inflated, rates. We found evidence that *where* a question appears on the questionnaire can lead to response effects that may be the result of "acquiescence" or "social-desirability" and, consequently, may affect the crime data gathered. Thus, instrumentation effects are important to consider when interpreting self-reported crime rates and, where exact counts of crime volume are required, these data will not suffice.

However, the skewed distribution of offending rates persisted across different question formats, as did general patterns of offending. Most of the differences we found, however, were not statistically significant. As in other domains of science, we found that *how* we measure a phenomenon can affect the data we obtain. When we use data of this sort, we must keep these limitations in mind.

6. *How did the self-report data compare to official record data?*

We found, as we did in the 1986 study, self-report data and official record data to be very complementary. Demographic items were fairly consistent across data sources. Consistency for criminal justice events declined as the event became more ambiguous (for example, whether or not an arrest occurred might be more ambiguous than whether or not a person served time in jail). Although we found consistency on current crime type for only half the sample, we suspect the self-report data may be a better description than the legal charge of the behavior associated with the crime. More drug use data was obtained from the self-reports

compared to the prison files. The average self-report age for "benchmark" criminal justice contacts (i.e., age at first arrest) was younger than that found in the official record data. We found no differences across gender in our comparison of self-reports and official records.

7. *Did the test-retests find the prisoners' crime rates to be reliable?*

The test-retest analysis of over one hundred variables commonly used in self-report research indicated high reliability for the majority of items. With the exception of "drug dealing" the range of correlation coefficients measuring the relationship between annualized crime rates generated at Time One and Time Two was .83 to 1.0. The correlation for drug dealing was .52. However 87% of the dealers provided consistent answers between Time One and Time Two.

Overall, the test-retest analysis, in combination with the analysis of official record data, suggest that the self-reported crime rates obtained from Colorado prisoners are capable of supporting the analytical conclusions we present in this report.

ACKNOWLEDGMENTS

We wish to express our appreciation to the National Institute of Justice and Dr. Richard Laymon, our project monitor, for important support over the years. Suggestions obtained from participants at the annual meetings of the NIJ Offender Classification and Prediction Program influenced many stages of our work, and we are indebted to this group.

Our thanks to the Colorado Department of Corrections for allowing us uncommon access to inmates over the course of several years, and to those nearly 2,000 inmates who have worked with us since 1985.

We are particularly grateful for having had the opportunity to work with Drs. Jan Chaiken, Jacqueline Cohen and Delbert Elliott as members of our study advisory group. Their contributions to this work were invaluable.

Additional thanks are in order to Chris Webster for his indispensable management of the extensive self report and official data collection, and to Susan Colling, Suzanne Pullen, Nanci Avitable, Adele Platter and Joan Crouch for their greatly appreciated support and assistance.

Finally, the views expressed herein are ours and, do not necessarily reflect the perspective of the National Institute of Justice. Also, any errors contained in this report are ours alone.

PREFACE

Since Wolfgang et al's (1972) landmark study found that only six percent of their sample of Philadelphia boys committed more than half the crimes reported by the group, individual crime rates have become an important piece of information for those developing criminological theory and policy. Researchers have found that self report data are rich with information about crime frequency and seriousness. The self-report method can also obtain information about the correlates of criminal activity, which are unavailable in official criminal justice records. Candid reports of criminal behavior by school boys and girls, by adults, by junkies, by adult prison inmates and other populations of interest have led to a multitude of epidemiological crime studies, criminal career research and etiological delinquency research based on personal reports of illegal behavior (what Voss [1976] called "confessional data").

In many ways, debates about the quality--the reliability and validity--of these data obtained from various samples took a back seat to the potential contribution of self reported crime rates to crime theory and, of particular interest here, criminal justice policy and program development. While researchers habitually discussed study limitations, the potential usefulness of the data received considerable fanfare (for good examples of both, see Petersilia, Greenwood and Lavin, 1978:iii and xii) and, for good reason. These data revealed that serious criminal behavior--that is, the intensity and duration of a criminal career--was not equally distributed across all the groups studied. Some individuals committed considerably more illegal acts than others. Self report data also indicated that those actively engaged in crime usually started this behavior at an early age and were likely to participate in other non-mainstream behaviors--for example, using drugs, dropping out of school, working (if the subject was an adolescent) or not working (if he were an adult). When considered from a career perspective (Cohen, 1983), these crime correlates have the potential to suggest specific "points of intervention" that schools, criminal justice agencies or various programs might target to interrupt or redirect the pathways of individuals who are at high risk of committing ongoing, serious, illegal behaviors (see Elliott, Huizinga and Menard, 1989).

It has been a decade since Chaiken and Chaiken's (1982) significant discovery that even among imprisoned criminals (where one might expect high rate activity to be quite common) individual offending rates were, instead, extremely variable. In a replication of the Chaikens' work, Mande and English (1988) estimated that less than five percent of the prisoners they studied accounted for 90 percent of the crimes committed by their sample during the two years prior to incarceration.

As a consequence of findings such as these, policy analysts were interested in calculating the effectiveness of incarceration as a crime control strategy. Self reported crime rate data was an important component in this formula. But, the quality of the data and the method of study design are important and sometimes controversial considerations. Specifically, the survey instruments used to obtain prisoner self report's have been criticized (Cohen,1983; Visher, 1986; Mande and English, 1988; Horney and Marshall, 1991) for question sequences that were likely to inflate the crime rate estimates and, hence, possibly lead to overestimates of incapacitative effects.

Given the value of self reports of criminal activity to theory and policy deliberations, the present study aimed to test the reliability of our measures of sensitive crime rate data by varying the conditions under which prisoners were surveyed. In doing so, we hoped to build a valuable data set for criminologists and policy analysts nationwide to employ in secondary analyses, provided the data quality was satisfactory. That appears to be the case. Reports of criminal activity did not vary systematically across various data collection methods. Further, including female prisoners in self report research for the first time, we found that there appears to be considerable similarity in offending patterns across gender, a notable departure from the findings of self report studies of non-prisoner populations.

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CHAPTER ONE

INTRODUCTION

Directly asking people questions is probably the most commonly used form of data collection in the social sciences. In many cases, empirical questions about behaviors and attitudes cannot be answered by any other method. But the validity and reliability of these data are often suspect.

Not surprisingly, these suspicions are exacerbated when the research subjects are convicted criminals and the topic of study is unreported criminal behavior. Because our understanding of fundamental criminological characteristics (for example, the prevalence and frequency of criminal activity) is only as sound as the data upon which they are based, the data itself sometimes becomes the object of inquiry in research endeavors.

Indeed, that is the case with the current project. In 1988 and 1989, over 1,500 Colorado prisoners were surveyed to gather information which cannot be obtained from official criminal justice records. The self-administered survey was conducted under varying conditions so we could explore whether the conditions of the research affected the data obtained.

In 1988 and 1989, over 1,500 Colorado prisoners were surveyed to gather information which cannot be obtained from official criminal justice records.

This project grew from a previous study we conducted with 313 male inmates in Colorado in 1986. For the current study, we modified the questionnaire and the administration conditions to improve upon weaknesses that concerned us in 1986. This earlier study also serves as a comparison group for both methodological issues and changes over time in Colorado prisoners' self reported crime rates.

BACKGROUND: CRIMINAL CAREER RESEARCH

In a landmark study of official police records, Wolfgang et al (1972) reported that half of all crimes and two thirds of the violent crimes were committed by six percent of the Philadelphia birth cohort they investigated. In their follow-up study published in 1980, they also found that half their sample experienced police contact before their 30th birthday for non-traffic offenses. In reviewing the findings of this and similar studies, Petersilia concluded:

> Only five percent of the population will demonstrate the beginnings of a sustained criminal career, but once three contacts with police have been recorded, the probability of another is very high (1980:321).

Prevalence, persistence and seriousness of criminal activity are of interest to criminologists and policy makers alike. According to Cohen (1986), the crime rate in our community will vary with the individual criminal participation rate (i.e., prevalence of offenders) and with the frequency of offending by individual offenders. As noted by Chaiken and Chaiken (1983:11), "critical to the interpretation of crime rate statistics is an understanding of the impact that individual offenders have on the crime rate as a whole." Pursuit of this information essentially marked a new era in criminology: self reports of individual crime rates as a method of understanding "criminal careers and 'career criminals'" (Blumstein, et al. 1986).

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Recognizing the bridge between research and policy that criminal career research represented, the National Institute of Justice demonstrated considerable commitment to furthering knowledge in this area. Over the course of a dozen years, the Institute funded (among other criminal career projects) inmate studies in five state prison systems and in jails in California and New Orleans, providing the essence of the scientific endeavor: replication and improvement in measurement (Figure 1.1 captures the results from the prison studies , per Chaiken and Chaiken, 1982; Mande and English, 1988; Horney and Marshall, 1991).

In 1986, the National Research Council's Panel on Research on Criminal Careers reviewed the "state of the art" and set an agenda for future research:

> Basic research on the nature and measurement of criminal careers, and policy research on the effect of various intervention strategies at different stages of a criminal career, will contribute to the development of better policy options (Blumstein et al, 1986 Vol 1:199).

Improved measures of criminal participation and the frequency of crime activity were among the important areas identified for future research. This prioritization, plus the commitment of the National Institute of Justice to improve researchers' and policy makers' ability to classify types of offenders, led to the current study.

The research reported here follows a long history of work by criminologists collecting self reports of illegal behavior[1]. This particular study follows pioneering work begun by researchers at the Rand Corporation who targeted prison inmates as subjects of criminal career research (Petersilia et, 1978; Peterson and

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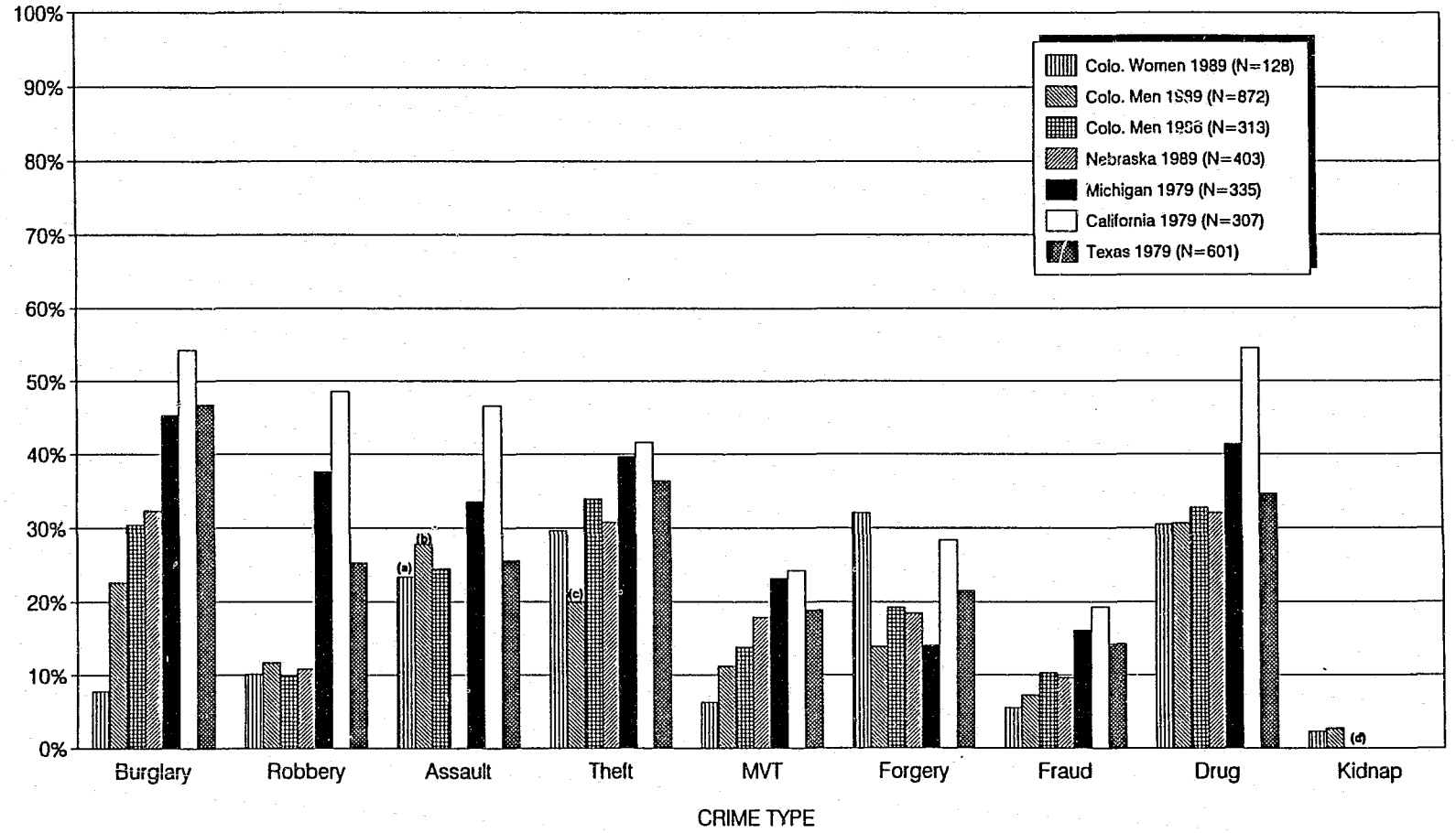
FIGURE 1.1

CRIME SPECIFIC PARTICIPATION RATES OF SEVEN PRISONER SAMPLES



(a) 1/3 of these were domestic assaults
(b) 1/10 of these were domestic assaults
(c) new wording
(d) kidnapping questions were only on the 1989 Colorado survey

FIGURE 1.1: CRIME SPECIFIC PARTICIPATION RATES OF SEVEN PRISONER SAMPLES

Braiker, 1980; Chaiken and Chaiken, 1982). These felons were the recipients of significant amounts of criminal justice resources, and a better understanding of this group, it was thought, might lead to the development of better strategies for crime prevention, treatment, deterrence and punishment.

Collecting self-reports of prison inmates thus has a specific history. The purpose of this chapter is to briefly chronicle these studies of prisoners to provide a context for the present research.

THE RAND STUDIES

Embarking on the task of obtaining self-reports of criminal activity from adult inmates,[1] researchers at the Rand Corporation developed a method of surveying incarcerated male offenders to obtain estimates of crimes they committed during a specific window of time. The first Rand study of this genre consisted of structured interviews with 49 California prison inmates convicted of armed robbery (Petersilia, Greenwood and Lavin, 1977). Rand's next project, now referred to as the First Inmate Survey, involved 624 inmates surveyed in California prisons (Peterson and Braiker, 1980). The culmination of these projects was the 1978 Second Inmate Survey involving the self reports and official prison records of 2,190 inmates in California, Michigan and Texas (Chaiken and Chaiken, 1982; Peterson et al, 1982; Marquis and Ebener, 1982; Greenwood and Lavin, 1982). The major findings from the Second Survey added evidence to support the previous research: individual offending rates were highly skewed to the right with most offenders committing crimes at very low rates and a small group of offenders committing crimes at a very high rate (Chaiken and Chaiken, 1982).

The major findings from the Second Rand Survey added evidence to support the previous research: individual offending rates were highly skewed to the right with most offenders committing crimes at very low rates and with a small group of offenders committing crimes at a very high rate (Chaiken and Chaiken, 1982).

The crime rates reported in the Second Rand Survey significantly spurred the debate, by then a decade old (Avi-Itzhak and Shinnar (1973); Marsh and Singer, 1972; Greenberg, 1975; Shinnar and Shinnar, 1975), of the value of incapacitation as a method of crime control (Greenwood and Lavin, 1982). Evaluating and implementing incarceration as a crime control strategy, however, hinged on two important pieces of information: (1) "adequate estimates of the individual offending rate (lambda)" (Cohen, 1978:229), and (2) the technical ability to prospectively identify high rate offenders who would be the target of such strategies (Cohen, 1983). Regarding the latter, recent work by Canela-Cacho (1991) suggests the criminal justice system, without explicitly attempting to identify those offenders, nevertheless may consistently identify higher rate offenders for incarceration. The former issue, the value of lambda, has received considerable attention in Colorado.

THE COLORADO REPLICATION PROJECT

Rand's Second Survey served as a landmark study, greatly enhancing our knowledge of criminal careers and individual offending rates and patterns. Given the significance of the Rand study, an important question became whether or not the findings could be replicated by other researchers. In addition, there were some problems with the study. For example, younger inmates were over represented and poor readers were under represented. Also, the sample was drawn from a population cohort weighted to resemble an incoming cohort, thus extending the recall period for inmates with long sentences. The response rate varied between 49-94 percent (Peterson, et al, 1982), and this may have created an unknown bias in the sample. For example, if the nonrespondents were high rate offenders, the aggregate distribution of offending rates could differ considerably from the skewed figures reported in Chaiken and Chaiken (1982).

Finally, methods used to manage missing and ambiguous responses appeared likely to inflate the rates (Visher, 1986). When Rolph and Chaiken (1987) adjusted the crime rates per Visher's (1986) method, the rates were reduced by approximately 25 percent, but overall skewness remained unchanged.

When Rolph and Chaiken (1987) adjusted the crime rates per Visher's (1986) method the rates were reduced by approximately 25 percent, but overall skewness remained unchanged.

Mande and English (1988) and English (1989) replicated the Rand Second Survey in Colorado with 313 male inmates housed in the Reception and Diagnostic Unit of the state prison. This project overcame some of the problems identified with the Rand Second Survey. We obtained an intake cohort, thus reducing the problems with recall that might have been experienced by a resident population sample. Also, our response rate was 91 percent, and for one-third of the survey groups (inmates were surveyed in groups of 15-20), the response rate was 100 percent. The sample appeared to be representative of the incoming population but, like the Second Survey, it seemed to contain slightly better educated inmates. Finally, less than three percent of the cases in the sample contained missing or ambiguous data so we were not confronted with some of the difficult adjustment problems that plagued Rand researchers (Chaiken and Chaiken, 1982).

Most importantly, we found that data obtained from self reports of Colorado inmates, like those in California, Michigan and Texas, revealed individual offending rates to be highly skewed to the right. For more than half of the active offenders in the Replication Project, we estimated annualized offending rates of less than 8 crimes per year (Mande and English, 1986:Table 3.1), but for the ten-percent of most active property offenders we estimated annual rates of more than 800 crimes, excluding drug deals (Mande and English, 1986:Table 3.2).

But some important questions remained after the Colorado Replication Project was completed.

Critics of the Second Survey also suggested the questionnaire design may have led to overestimates of offending rates (Cohen, 1983; Visher, 1986). In particular, the questionnaire required high frequency offenders (those who reported committing "more than ten" of a particular type of offense during the measurement period) to follow a sequence of questions that involved the choice of four possible time units during which they were criminally active. This question sequence was considerably more difficult to conceptualize than the single question asked of those who reported fewer than ten offenses per year ("how many?"), and critics suspected it would obtain inflated crime frequency estimates.

In addition, Mande and English (1988) criticized the questionnaire because of the manner in which respondents had to identify the time preceding this incarceration during which they were "at-risk" to commit crimes (before their arrest for the current offense). The questionnaire instructed respondents to retrospectively reconstruct this period of time (which varied for each of them from 13-24 months) and to exclude periods of incarceration or hospitalization. The confusion this caused (measured informally by the number of questions respondents asked about this portion of the questionnaire) was documented by Peterson, et al (1982) and experienced again by the data collectors in Colorado (Mande and English, 1988). Since accurate identification of the measurement period is central to the descriptions of crime activity, this problem was important but was left unresolved by the Replication Project.

THE CURRENT STUDY

Building on the work of Rand researchers and our experience with the Replication Project, in 1988-89, we surveyed over 1,500 inmates entering Colorado's Department of Corrections. This time, we modified the questionnaire, shortened the recall period to one year (rather than two years), and worked with respondents one-on-one to identify each person's window of crime opportunity. In addition, we included women in the sample thus, for the first time, crime rates of female prisoners could be estimated and compared to those of male prisoners.

Building on the work of Rand researchers and our experience with the Replication Project, we modified the questionnaire, shortened the recall period to one year (rather than two years), and worked with the respondents one-on-one to identify each person's window of crime opportunity.

And, along with implementing what we believed to be overall improvements in the survey administration, we varied the conditions under which the data were collected. Specifically, we wanted to know if the self reports of crime rates would vary (1) under conditions of anonymity; (2) if the questionnaire were shortened considerably to eliminate many time consuming "rapport-building" questions; (3) if an interactive-computer method might be an

improved technique for gathering the sensitive information; and (4) if the questionnaire were administered in different locations in the prison setting.

In sum, the current project explores the reliability of self reported criminal activity across different conditions of survey administration. This report is organized as follows: Chapter Two discusses the measurement issues that continue to make studies of this sort controversial. Chapter Three describes study methods, i.e., the modified questionnaire, data collection procedures, and plan of analyses we undertook to test our research questions. Chapter Four describes the dimensions of a criminal career that are the focus of this project (participation and frequency rates in eight crime types we studied), and compares the data collected in 1986 with the data obtained with the "improved" methods of 1988-89. Chapter Five addresses participation and frequency rates of offenders taking the self-administered questionnaire under varying conditions. Chapter Six presents gender differences in crime participation and frequency, and explores crime motivation and drug use. Chapter Seven compares data obtained from inmate questionnaires with data collected from their prison file, and Chapter Eight discusses the impact of question wording on the crime frequencies obtained

ENDNOTES--CHAPTER ONE

1. Hindelang, Hirschi and Weis (1979) report that, prior to the Rand studies, the administration of self reported crime surveys had been limited to students and longitudinal studies of the general population.

CHAPTER TWO

MEASUREMENT ISSUES*[1]

According to Blumstein et al (1986, Vol 1:1), the four key dimensions of a criminal career are:

1. Participation — The distinction between those who engage in crimes and those who do not
2. Frequency — The rate of criminal activity of those who are active
3. Seriousness — The severity of offenses committed
4. Career Length — The length of time an offender is active.

Data necessary to investigate these dimensions are generally obtained from either retrospective self reports of illegal behavior or from official criminal justice records such as FBI rap sheets. Both data sources have advantages and disadvantages, but the self-reports tend to be particularly suspect. A considerable literature has evolved over the past two decades questioning the reliability and validity of self reported data[1]. In spite of obvious problems, classically summarized in the box at right, research findings have not substantiated concerns about the quality of self reports. Weis (1986:11-14), after a review of the literature, concludes that available evidence indicates self report data to be "very reliable" overall. Chapter 7 of this report adds to this important discussion.

> *"If people lie, cheat and steal, those using a method based on the assumption that they do can hardly claim that they do not" (Hindelang, Hirschi and Weis, 1981:17).*

Despite favorable reviews, self reported crime studies are not without polemic features. Perhaps surprisingly, these features are not simply related to the truthfulness of respondents. Rather, the study design itself is both complicated and controversial: Who ends up in the study sample? How do we ask these sensitive and potentially incriminating questions? When were the respondents committing these crimes, and was their activity constant or sporadic during this period? How do we adjust for variations in each individual's opportunity to commit crime? And, finally, how do design issues such as these interrelate?

> *These data have enormous public policy potential, but findings extracted from a report of this kind can be easily misunderstood.*

[1] *This chapter draws from the work of Blumstein, Cohen, Roth and Visher, editors of *Criminal Careers and "Career Criminals"* (1986:Vols. 1 and 2), commissioned by the National Research Council's Panel on Research on Criminal Careers.

For this study, our objective was to examine and improve the methods used to obtain self-reported crime rate data. In doing so, we hoped to better understand what self reported crime rate data represent. As we shall discuss in later chapters, the crime rates are not easily disentangled from the methods researchers use to collect the data. Once this separation is achieved, our understanding of the rates is significantly enhanced.

In this chapter, we outline the measurement issues that can affect self reported crime rate data. This is necessary because these data have enormous public policy potential, and data extracted from a report of this kind can be easily misunderstood. This chapter is organized as follows: the discussion begins where every study starts, with a review of sampling issues. In particular, we discuss the generalizability of the findings and two ways the sampling design can affect the crime rates. This is followed by a description of the data elements used to estimate individual crime frequency rates. The implications of the design considerations are briefly summarized at the end of the chapter.

The Study Sample: Who Are They?

Prisoners: As discussed above, studies of prisoners generally target society's most active offenders and, among this group, individual offending rates vary considerably. For example, as reported in Chapter 5, while the most active ten percent of burglars in the current sample reported very frequent annual burglary rates, sometimes several hundred burglaries in the course of a year, half of the burglars reported committing fewer than a dozen break-ins a year, and one-quarter reported fewer than two burglaries annually. It is, in fact, this variation that has caught the attention of both researchers and policy makers. After all, the cost of prison beds is relatively constant, and incarceration would be most cost effective if it were used especially for high frequency offenders who were at the beginning of their criminal careers.

Thus, crime rate estimates are pivotal to analyses of the effectiveness of incapacitation as a crime control strategy (Avi-Itzhak and Shinnar, 1973; Cohen, 1983; Visher, 1989). Yet, data obtained from an incarcerated sample of offenders--as represented in this study--cannot be applied to the general population of offenders, even though that is the group of offenders most often the subject of crime control policies. Prison confinement results not only from an individual's crime patterns, but also from a complex set of

Prison confinement results from an individual's crime patterns, policing policies, arrest probabilities, conviction probabilities, and sentencing options.

selection processes including policing policies, arrest probabilities (which vary considerably by crime type and offense frequency), conviction probabilities, sentencing options available in a given jurisdiction, and local sentencing policies and practices.

Further, these data--which reflect crime activity during one year alone--cannot be considered representative of an offender's entire criminal career. In a cross-sectional study, such as the one reported here, we obtain a snapshot of behavior but we do not know what portion of a participant's criminal career is being sampled: onset, persistence or termination.[2] As indicated by Blumstein et al (1986:106)

> ...if an offender initiates or terminates a career midway through an observation period, then the estimate of his offending frequency, when distributed over the entire period, would be only half his true rate during his active period.

Thus, the crimes reported in this study reflect activity immediately preceding prison confinement, and thus we are likely measuring criminal involvement at the most active phase of one's criminal career (Rolph and Chaiken, 1987). Canela-Cacho (1990:153) explored this issue and summarized his work like this:

> One of the most striking features of the results [of this analysis] is the enormous difference between the average offending frequencies (λ) of sentenced offenders and the average λ for all offenders. The much higher concentration of high-λ offenders found among incoming prison inmates and the resulting sizable differences in means, emerges from a process of "stochastic selectivity," whereby the criminal justice system tends to intercept highly active offenders even when no deliberate policy of offender selectivity is implemented.

Canela-Cacho goes on to summarize what this means from a policy perspective:

> ...the size of the incapacitative effect...depends critically on the shape of the distribution of λ for the offender population and not only on its mean.... If selective incapacitation is to increase the efficiency of incapacitation it is required that some of the remaining free offenders from the high-λ subpopulation be traded in for a number of the low-λ offenders currently in prison. But note how formidable this task is: less than one percent of the total population are high-λ offenders and between 50-75% of them are already in prison (p.154-164).

So, a prison sample consists of society's most active offenders and cannot be considered representative of the offender population at large. To exacerbate this further, our sampling methods likely tap the most active among an already significantly active group. Cohen (1986:353) concludes that "high-rate offenders are always more likely to have at least one offense and thus be included in a sample of active offenders." This is because the criterion for activity is *self reported participation*

in at least one of the crime types included in the questionnaire (the questionnaire used in the present study requested information about eight crime types). Offenders with low levels of criminal activity are less likely to have been active during any bounded measurement period.

In a cross-sectional study, we do not know what portion of a participant's criminal career is being sampled: onset, persistence or termination.

She explains (1986:Table b-35) that in a one-day sample of an offender population, high rate offenders are more than 200 times more likely to be sampled than the lowest rate offenders.

Therefore, according to Cohen, (1986:325), the length of the measurement period (one day, 1 year, 2 years or 3 years, for example) may affect the sample composition for active offenders such that "a greater representation of low rate offenders in [a study with a 36-month observation period] would lower the mean offense rate from that survey compared to the mean obtained from [a survey with a 24-month observation period]." She recommends a sampling period of three years to obtain a reasonably representative sample of the offender population. When Rolph and Chaiken (1987) explored this issue, they found that raw counts of crimes were not strongly related to the duration of the measurement period; thus, when the crime activity was *annualized*, the rates were lower for longer measurement periods.

"High-rate offenders are always more likely to have at least one offense and thus be included in a sample of active offenders" (Cohen 1986:353).

In sum, the length of the observation period refers to the time of criminal activity that is of interest to researchers. With prisoner populations, researchers typically target the period of time immediately preceding the present prison term. From a justice system perspective, we may be interested in the extent to which prison may be seen as interrupting one's criminal activity. From a methodological perspective, we are concerned (among other things) about the participants' recall ability which diminishes over time. But the length of the measurement period may affect *who* in the study sample is identified as an active offender. Once crime rates are averaged across a group of offenders, the higher rates of some offenders will pull the mean upwards. If higher rate offenders are more likely to be included in any sample of active offenders, as Cohen proposes, and the participation rates are affected by the duration of the sampling frame and the length of the observation period, the mean rate may be inflated. How these issues and similar ones relate to the current study is discussed below.

How Should We Ask These Sensitive Questions?

Self reported crime frequency data is not easily obtained. Prisoner-respondents are, at the time of data collection, suffering the consequences of participating in criminal activity. They might be, understandably, reluctant to disclose illegal activity for which they may not have been caught. Studies must be carefully designed, questions carefully worded, and the data (once obtained) carefully protected (see Peterson et al, 1982). Certain pieces of information are essential: Were some of the respondents locked up or hospitalized while others in the sample were not (creating differential windows of criminal opportunity)? Did respondents commit crime the *entire* time they were free to do so? How do we manage the differences in opportunity and persistence that exists in a sample of offenders?[3]

Four data elements are typically used in prisoner studies that tap offending variability and, taken together, they can be used to obtain comparable estimates of individual annual crime rates (called *lambda, λ*).

(1) The Measurement Period: discussed above, this is the particular time period covered by the self reports of the respondent's behavior (sometimes called the "reference period" or the "observation period"),

(2) Street Time: the time *within* the measurement period that the offender was on the street and had the opportunity to commit crimes (excluding hospitalization and jail or prison incarceration),

(3) "Months Did": the number of months, within the measurement period, that certain crimes were committed, and

(4) "Crimes Did": the number of crimes recorded during the months the offender was active in that particular crime.

These four pieces of information are discussed in turn below.

The Measurement Period

The measurement period is that portion of a respondent's life which researchers want to observe. Some researchers study people over one or many years, surveying them regularly about their activity during the intervals between surveys (for example, Bachman et. al, 1978; Farrington, 1983; Elliott et al (1983, 1986, 1990). Other criminal career researchers have studied official records, looking retrospectively at individual arrest and conviction patterns over many years (for example, Wolfgang, 1972; Blumstein and Cohen, 1979, Blumstein et al, 1982, 1985; Shannon, 1982; Smith and Smith, 1984).

Some studies, like the one reported here, have targeted prisoners and asked them about their criminal activity during a specified period of time preceding incarceration. Petersilia, Greenwood and

Lavin's (1977) survey of 49 robbers focused on crimes committed during the period between release from their first adult incarceration to the start of the current confinement. Peterson and Braiker (1980) focused on the 36 months immediately preceding the inmate's instant arrest. Chaiken and Chaiken (1982) and the Colorado Replication Project (Mande and English, 1988) used a variable measurement period of the 13-24 months prior to the arrest leading to the current prison incarceration. Horney and Marshall (1991) inquired about activity for the 36 months prior to incarceration. The current study used a measurement period of the 12 months immediately preceding the arrest resulting in the current prison confinement.

Recall and the Measurement Period: Two types of measurement error are associated with memory, and these are generally thought to operate in opposite directions (Sudman and Bradburn, 1974). First, there is forgetting of events, a problem which is thought to be exacerbated by the passage of time (Wicklegren, 1970). This would lead study subjects to underreport events of interest to researchers. A second type of error, that of telescoping, leads to overreporting. According to Sudman and Bradburn (1974:69), "a telescoping error occurs when the respondent misremembers the duration of an event" and the errors are not randomly distributed around the true duration, but "are primarily in the direction of remembering an event as having occurred more recently than it did."

Forgetting is especially a problem with low-frequency events (unless these events are particularly salient [Weis, 1986]) while telescoping is particularly likely for frequently occurring events, (Sudman and Bradburn, 1974). Both measurement problems can affect a study of self-reported crime since prior research indicates that there is considerable variability (i.e., low frequency and high frequency activity) in individual reports of crime frequency (Chaiken and Chaiken, 1982; Mande and English, 1988; Horney and Marshall, 1991).

Recall problems are further exacerbated by certain characteristics not uncommon in the offender populations. According to studies reviewed by Weis (1986), drinking and drug use affect recall, particularly if an event occurs in an intoxicated state (Bower, 1970; Jones and Jones, 1977; Birnbaum and Parker, 1977; Weingartner and Parker, 1984; Loftus, 1980; Penk et al, 1981). Chaiken and Chaiken (1982) found offenders who considered themselves "alcoholic/drunk" to have lower-than-average within-questionnaire consistency scores. Mande and English (1988)

Recall problems are further exacerbated by certain characteristics not uncommon in the offender population: drinking, drug use, stress, anxiety, guilty and shame.

found similar problems with offenders who called themselves "drug dealers"[4]. In addition, stress, anxiety, guilt and shame can impair both perception
of an event and, later, recalling it (Loftus, 1980; Talland, 1968). Also relevant to studying self-reports of crime, Sudman and Bradburn (1974) found the more threatening the question, the higher the omission rate.

The problems associated with recalling and reporting criminal activity mean that the length of the measurement period may be a critical factor in the research design.[5] Individual reports of criminal activity and frequency vary widely across a sample of offenders so that errors of recall (omission and telescoping) are perhaps balanced when an optimum recall period is used. Sudman and Bradburn's (1974:74) studies suggest that very frequent events may be best measured in weeks, but for infrequent events, a year is a more appropriate time unit[6].

Recall problems may be managed in part by the selection of a measurement period of appropriate duration. But the length of the measurement period will also affect the distribution in the sample of offenders with varying crime rates, and this may affect the average offending rates.

In sum, recall problems can be considered significant for a retrospective study, and may be managed in part by the selection of a measurement period of appropriate duration. However, the length of the measurement period will also affect the distribution in the sample of offenders with varying crime rates, and this in turn may affect the average offending rate of offenders studied.

Street Time

"Street time" is that portion of time *within the measurement period* that an offender is free--from incarceration or hospitalization--to commit crimes. If a respondent was locked up for two months in the last year (and not at all in the prior two years), in studies having 12, 24 or 36 month measurement periods he or she would have a street time of 10 months, 22 months or 34 months, respectively. As discussed above, the shorter the measurement period (and the shorter the street time) the less likely we are to identify less active offenders. Again, this factor affects aggregate crime rates estimated for a given sample of offenders.

TABLE 2.1
FOR A MEASUREMENT PERIOD OF 12 MONTHS, THE AVERAGE TIME ON THE STREET, BY CRIME TYPE, FOR AN INCOMING PRISONER COHORT (MALES) (n=872)

	MEAN STREET TIME (MONTHS)	STANDARD DEVIATION	% WITH <12 TOTAL STREET MONTHS	n
Burglary	9.96	3.16	39.3%	181
Robbery	10.16	3.08	33.3	90
Assault	10.17	3.04	38.0	216
Theft	10.0	2.96	42.6	162
MVT	9.36	3.53	49.4	89
Forgery	10.18	2.28	30.1	113
Fraud	10.57	2.60	31.0	58
Drug Dealing	10.42	2.75	35.2	233
OVERALL:				
Inactive(a)	10.72	2.62	27.3	308
Active(b)	10.41	2.80	33.0	564

Note: These data were obtained from questionnaires administered in 1988-89 to male Colorado prison inmates recently sentenced to the Department of Corrections (n=872).

(a) Inactive offenders are those who did not report activity in any of the eight crime types addressed by the survey instrument.
(b) Active offenders participated in at least one of the study crimes.

As shown in Table 2.1, thirty to almost 50% of offenders reported they were either locked up or hospitalized longer than two weeks during the one-year measurement period. This represents important variability in "opportunity time" to commit crimes. We will return to this issue, and its relevance for calculating crime rates, after measuring crime counts, or crime frequency, is addressed.

Crime Frequency: Months Active and Crimes Counted

A respondent might report a street time of 12 months, but that he committed burglaries only during a three month interval, as in the example before. In the present study, *months* were used as the unit of time for seven of the eight crimes studied. The drug section of the questionnaire used weekly increments to tap activity.

There are many ways to measure "Crimes Did." In the National Youth Survey's longitudinal research design, respondents are asked during interviews to report the number of crimes they committed in the last year using one of the following descriptions (National Youth Survey 1987 Interview Schedule):

Once a Month
Once Every 2-3 Weeks
Once a Week
2-3 Times a Week
Once a Day
2-3 Times a Day

Asking offenders retrospectively about their "usual" crime activity during small units of time may inflate frequency estimates, while using large units could deflate estimates. Bachman and O'Malley (1980), asked about drug use among high school seniors "...in your lifetime?" "... during the last 12 months?" and "...during the last 30 days?" and concluded that annual frequencies were too low or monthly frequencies were too high, or both. Rolph and Chaiken (1987) found that, for offenders reporting more than 50 crimes, asking respondents to indicate a frequency of criminal activity in a given time unit yielded higher crime rates than asking directly for a total count during a given study period. Elliott et al (1983) report similar findings. In Chapter 6 of this report, we present evidence that crime rates are lower when respondent's are asked about "usual" crime activity over a period of months compared to questions asking about activity over the entire study period.

We can conclude from this what common sense attests: the answer obtained may be affected by the manner in which the question is asked. When a study design is based on empirical lessons learned from earlier studies, as it is here (Peterson, et al, 1981; Rolph, et all, 1981; Peterson, et al, 1982; Chaiken and Chaiken, 1982; Rolph and Chaiken, 1987; Mande and English, 1988), we can conclude that a particular type of question may yield a higher or lower crime rate estimate but, as noted by Rolph and Chaiken (1987:53), "...it is not clear which [estimate] is closer to the truth."

How Do We Calculate An Individual's Crime Rate?

After researcher's identify the measurement period and after study respondents provide personal information about street time, months they were criminally active and the counts of the crimes they committed, it becomes possible to calculate individual crime rates. For our purposes, there are two types of crime rates: (1) the effective crime rate per year (Cohen, 1986), and (2) the annualized crime rate (referred to as lambda, λ). The effective annual crime rate is an offender's actual crime rate regardless of variation in opportunity time. For example, if an offender reported committing

4 burglaries during a measurement period of 12 months, but the offender also served six months in jail during the measurement period, the annual effective burglary rate for this offender is 4.

Effective Crime Rate Per Year	=	Usual number of crimes per month	x	Months did that crime during year	(1)

But a comparison of this offender to someone who was not locked up during the measurement period loses meaning for each have different time periods (street time) in which they *could* commit burglaries. Therefore, the annualized crime rate, λ, mathematically adjusts for differential opportunity periods by *assuming a constant rate of offending* during these opportunity periods. The crime rate is divided by the individual's street time (generating a monthly rate averaged for the entire year) and then multiplied by 12 (months in a year) to obtain an estimate of the offender's annualized crime rate.[7]

Annualized Crime Rate (Lambda)	=	Usual number of crimes per month	x	Months did that crime during year	÷	Street months	x	12 months per year	(2)

When street time varies across respondents, average lambda estimates are always higher than the average effective rate and the same is true of percentiles, as shown in Table 2.2. For a sample of incoming male prisoners who reported activity in burglary or robbery during the 12 months prior to their current incarceration (this sample is described in detailed in the next chapter), annualized crime rates (shown at the 25th, 50th and 75th percentiles) are consistently higher compared to effective rates Approximately two-thirds of the burglars and robbers (60.7% and 66.7%, respectively) had effective rates equal to their lambda rates, meaning two-thirds of these groups reported no incarceration or hospitalization time during the measurement period.

Annualized crime rates are consistently higher than effective rates.

TABLE 2.2
COMPARISON OF ACTUAL CRIMES REPORTED WITH ANNUAL RATES
(Men)

BURGLARIES REPORTED (percentile)	ANNUALIZED CRIME RATE (LAMBDA)	EFFECTIVE CRIME RATES
25TH	1.33	1.0
50TH	6.0	4.0
75TH	36.0	16.8
MEAN	68.58	51.04
(n)	181	183

ROBBERIES REPORTED (percentile)	ANNUALIZED CRIME RATE (LAMBDA)	EFFECTIVE CRIME RATES
25TH	1.0	1.0
50TH	2.70	2.0
75TH	10.50	9.0
MEAN	13.72	8.18
(n)	90	90

Note: These crime rates were obtained from a questionnaire administered to a sample of male inmates who entered the Colorado prison system in 1988-89 (n=872) and who reported committing at least one burglary or robbery during the 12 months preceding arrest for their current incarceration.

For those offenders with less than 12 street months (see Table 2.1), their estimated annualized crime rates could be inflated.[8] Rolph and Chaiken (1987:9) explored this issue, and their findings "strongly challenge the notion that offenders' crime commission rates remain constant over periods as long as several years." Indeed, during the course of this study, hundreds of conversations with inmates about their criminal activity (see the section on "Field Procedures") indicated that constant, systematic activity did occur but was very unusual.[9]

In sum, *lambda is a statistic which may or may not reflect the actual activities of each offender* and it varies considerably by street time (opportunity), which varies by study design. As noted by Rolph and Chaiken (1987:vi), "...it is mathematically correct to say that a person who committed eight robberies in two months (and

Lambda assumes that offenders commit crime at a constant rate. But, in reality, crime is episodic.

was then arrested) was committing robberies at an annual rate of 48 robberies per year; but this statement tends to leave the possibly incorrect impression that the offender would indeed have committed 48 robberies if left free for an entire year". Despite its obvious limitations, lambda is essential for studies of this kind because it summarizes activity and allows that activity to be compared across studies.

So What Do The Crime Rates Really Mean?

The data obtained in self reported crime rate studies perhaps best reflect the relative distribution over various activity levels (for example, low, medium, or high levels of activity) since the exact crime rate values are likely to be--by virtue of the methodological issues discussed here--artificially inflated. These data best describe *categories* of offenders, ranked according to crime type and activity level, and these categories have value for the study of criminal behavior in general and intervention strategies in particular.

These data best describe categories of offenders, ranked according to crime and activity level.

The following discussion will serve to illustrate how attempts to use the exact lambda values for descriptive or policy purposes could be misdirected. Table 2.3 presents the lambda mean and median values for a group of incoming male inmates surveyed in Colorado in 1988 and 1989 (see Chapter Three for a description of the study samples). For this illustration, two groups of offenders surveyed during two different four-month periods. As can be seen, the mean values vary considerably across cohorts for most of the crime types. For burglary, the mean annual crime rate for Cohort One is 87.8, double the mean rate for Cohort Two. Such variation in the mean values is not surprising since the mean is especially vulnerable to extreme values: a few very active offenders reporting several burglaries a day over the course of a year could easily double a mean value. The annualized median rates are more impervious to the sampling variation in the rates, and these remain fairly stable across the cohorts.

Given the differences in the average lambda values shown in Table 2.3, it seems reasonable to ask: Are the two cohorts alike? Or does Cohort One represent a more active group of burglars, robbers, fighters and thieves compared to Cohort Two? Conversely, does Cohort Two represent more active car thieves, forgers, "cons," and drug dealers than Cohort One? We explored these questions using two statistical tests, one that tested the differences in the means of the two groups (the t-test), and one that tested the differences in the distribution of annualized rates estimated across both samples (the Kologomorov-Smirnoff test of two samples [see Chapter 3 for a description]).

TABLE 2.3
EXAMINING COHORT DIFFERENCES IN MEAN AND MEDIAN OFFENDING RATE ESTIMATES

Crime Type	Cohort One (n=378)			Cohort Two (n=385)		
	Mean	Median	n	Mean	Median	n
Burglary	87.8	4.5	74	43.9	6.0	87
Robbery	21.9	3.0	42	6.1	2.0	39
Assault	30.9	2.0	79	9.6	3.0	98
Theft	122.3	12.0	71	47.1	12.0	72
MVT	21.9	2.0	37	27.8	2.2	42
Forgery	227.9	7.3	60	273.4	8.0	43
Fraud	31.0	5.0	21	510.4	15.0	29
Drug Dealing	1974.3	335.4	92	2100.2	362.2	110

Except for fraud, we can be at least 90% confident that Cohort One and Cohort Two are both drawn from the same population of offenders. This finding reflects the extreme variation in reported crime rates found in prisoner samples. The mean burglary lambda estimate of 87.8 for Cohort One is, statistically, not different from the estimate of 43.9 for Cohort Two. Thus, reliance on the literal values of mean lambda estimates is probably not meaningful. Rather, we can speak with greater confidence about the distribution of offenders at the low, medium or high end of the overall crime rate distribution, and Marquis and Ebener (1981) found categorized crime rates are statistically more reliable than the individualized crime rate estimates themselves.

For these data, a mean burglary lambda estimate of 87.8 is not, statistically, different from an estimate of 43.9 burglaries per year. Both values are likely to occur in the same population of offenders.

Previous work supports this approach (Chaiken and Chaiken, 1985; 1987; 1990) and work by Mande and English (1988:62-64) indicated that, indeed, this gross categorization differentiates among offenders in terms of their criminal history and other valuable descriptors.

Summary

For reasons described in this chapter, the individual crime rate data discussed throughout this report have two important characteristics: (1) extremely high variation in offending frequencies, and (2) crime rates that are likely to reflect the activity levels of society's most active offenders. Because of these features, using specific crime rate values as if they are literal measures of precise activity levels would not be prudent. In subsequent chapters, the data are illustrated and summarized without reference to this important qualification and, as noted by Rolph and Chaiken (1987:vi), "may tend to mislead nontechnical readers about the amount of crime committed by high rate offenders." Readers must be cautious in their interpretation of self reported crime rate data. This qualification will be repeated when we discuss our findings in later chapters.

ENDNOTES--CHAPTER 2

1. See Weis (1986), "Issues in the Measurement of Criminal Careers", for a comprehensive discussion and review of the literature pertaining to the liabilities of various sources of criminal career data (self-reports from interviews, self-administered questionnaires, official records, etc.).

2. Models can be developed to simulate these characteristics, i.e., Ahn, et al (1990), Avi-Itzhak and Shinnar (1973), Canela-Cacho (1990), and Lehoczky (1986).

3. See Horney and Marshall (1991) for a discussion of variability of offending across different crime types.

4. Crime frequency rates were not controlled, so it is unknown if this finding holds true across offenders with differential activity levels.

5. A questionnaire administration procedure called "bounded recall" (Neter and Waksberg, 19--) may be helpful in obtaining more reliable data. This is discussed in the following chapter describing the study methods.

6. Given that crime rates vary seasonally (increasing in the summer months and again around the holidays at the end of the year), and given the interest of policy makers and researchers in obtaining data from incoming prisoners with varying frequency levels, a one year measurement period was considered "optimum" in the current study. See Chapter 3 for more information on the current study design.

7. Cohen, in Criminal Careers and Career Criminals, Vol. 1, explains that this formula artificially inflates the crime rates by the requirement that all active offenders have at least one event to enter the participation rate measure:

> To the extent that λ ... varies in magnitude across offenders, all active offenders are not equally likely to enter the sample. In particular, offenders with a higher λ...will be more likely than other offenders to meet the criterion of at least one criminal event in the sampling window. As a result, these higher rate offenders will be over represented in offender samples (1986:353).

Further, recent work by Horney and Marshall (1991) suggest the method described here inflates crime rate estimates. However, since our objective was to compare the current study with previous work (Mande and English, 1988), and because these estimates are intended for methodological analyses and not incapacitation analyses, we follow the procedures used by Chaiken and Chaiken (1982).

8. Decreasing the length of the opportunity period has the same effect as inflating rates as does a shorter measurement period because higher rate offenders are more likely to have atleast one event during a shorter time period.

9. Rather, respondents indicated that generally there was some identifiable event that spurred a burst of criminal activity for a few months preceding the current arrest.

CHAPTER THREE

METHODS: STUDY DESIGN AND RESEARCH APPROACH

This study focused on assessing the reliability of crime rates and lambda across different conditions of survey administration, data collection instruments, question formats, measurement periods and sampling frames. The objectives of this research were, primarily, to explore improvements in the methods used to obtain self-reported crime rate data and, secondarily, to develop a data base that would be useful to other criminologists studying criminal careers and the etiology of crime. To these ends, the survey instrument was modified in specific areas, sample selection varied, and field procedures were adjusted according to the group, instrument or condition of interest.

The objectives of this research were, primarily, to explore improvements in the methods used to obtain self-reported crime rate data and, secondarily, to develop a data base that would be useful to other criminologists studying criminal careers and the etiology of crime.

In developing the study design, we wanted to build on our experience from a similar study we conducted in 1986 (Mande and English, 1988). The 1986 study was a replication of the Second Rand Survey that had been conducted in Texas, California and Michigan in 1978 and 1979 (Chaiken and Chaiken, 1982; Peterson et al, 1982). The Rand Replication Study involved 313 men recently sentenced to the Colorado Department of Corrections, and we refer to it throughout this report.

This chapter is organized as follows: First sample selection is described, followed by a description of each of the cohorts used in the study and a discussion of sample representativeness. Next, we describe the conditions of survey administration, official data collection and interviews conducted with respondents. Then, the survey instrument is described and, finally, we present our plan of data analysis.

The Sample

Our target population was prisoners recently sentenced to the Colorado Department of Corrections (DOC). Recently sentenced inmates were located in both county jails and in the state prison's Diagnostic Unit (DU). Those in county jails awaited transfer, sometimes for months, to the

DU for evaluation and classification which occurs prior to assignment to permanent housing units located across the state. Crowding problems had plagued the Colorado prison system since the mid-1980's, and although new facilities were under construction during the data collection phase of our project, few additional beds had come on-line at the time of this research. Consequently, most of the prisoners in the DU had previously spent some time backlogged in county jails, and the flow of inmates into the DU was sometimes erratic. This same situation existed for our 1986 data collection process. In our 1986 crime rate study, we collected data from backlogged inmates, and we looked for differences between the backlogged sample and the DU sample but found none. While we knew of informal selection processes that could have affected the composition of the incoming cohort (for example, offenders in county jails who displayed volatile acting out tendencies were moved to the top of waiting lists for the DOC), these apparently occurred so infrequently that differences in the incoming population were negligible. For the current study, then, we collected data only from prison inmates.

Our target population was prisoners recently sentenced to the Colorado Department of Corrections (DOC).

About 2500 inmates enter the Colorado prison system each year, at an average rate of about 50 inmates per week. However, during the sampling period (July 1988 to December 1989), this rate varied from none per week (as no prison beds opened and the backlog swelled) to 100 per week (if additional beds came on-line). We generally surveyed between 25 and 45 inmates per week in groups ranging in size from 10 to 20. On a typical week, depending on the flow of inmates through DU, our samples represented between 25-100% of the inmates entering the system.

Sample Selection: Our objective was to draw a true probability sample by systematically selecting a random sample from an alphabetical list of inmates housed in the Diagnostic Unit. Appropriate arrangements were made with prison administrators to use this sampling method, but the maneuvering this required on the part of the on-line correctional officers was extraordinary because of crowding problems and lack of correctional staff. Although line staff made every effort to accommodate our research requests, gathering a randomly selected group of inmates to participate in the study on any day took longer than actually administering the questionnaire to a group.

Since the time constraint was considerable, we opted for a simpler method to obtain study participants. Correctional officers took all recently admitted inmates from the most convenient cellblock who were not scheduled for medical treatment and escorted them to the survey area. Inmates were randomly assigned to cells in the Diagnostic Unit and there was no known bias introduced by using this sampling method (sampling bias is discussed below). We had used a similar

approach in 1986 and found it adequate.

Male respondents were surveyed at the DU within their first week of admission to the Department of Corrections. Incoming females were not housed in the DU but were rather transported there daily for testing from the women's prison and they were not available in the evenings when we had access to inmates. Therefore, data from females were collected at the women's prison from groups of 35-45 women, and the sample represents the population of female prisoners rather than an intake cohort.

In all, 1,632 men and 128 women were surveyed in 1988-89. Inmates who could not read were given one-on-one assistance by a researcher. Fewer than 15 inmates requested reading assistance, and another 15 refused to participate because they could not read. This low frequency of illiteracy leads us to suspect there was a self-selection process operating whereby poor readers refused to leave their cells, and this refusal would have been out of the sight of researchers.[1] Less than ten offenders did not participate because they did not speak English; again, we suspect some sort of self-selection process occurred whereby non-English speaking individuals refused to leave their cell.

The low frequency of illiteracy leads us to suspect there was a self-selection process operating whereby poor readers refused to leave their cells, and this refusal would have been out of the sight of researchers.

TABLE 3.1
SUMMARY OF 1988-89 COHORTS

COHORT	n	COHORT DESCRIPTION
Men Location: visiting room testing room	872 429 443	INCOMING INCOMING INCOMING
Anonymous Men	146	INCOMING
Computer	197	INCOMING
Shortened Version	215	INCOMING
Women	128	POPULATION

The male sample is composed of five groups that differed on some condition of interest. The largest of these groups (n = 872) was designed so it could be compared to the earlier sample of 313 men surveyed in Colorado in 1986. Including the 1986 sample, the study involves six male study groups and one female group, and each is described below.

CONFIDENTIAL MEN: This sample of 872 incoming male prisoners took the 65-page questionnaire under conditions of confidentiality. That is, each questionnaire had a number that corresponded to the inmate's name, and respondents signed an informed consent form which listed the laws guaranteed the information would be used for research purposes only (this procedure contrasts with anonymous conditions, discussed below). This group is the "comparison" group for our tests of the stability of crime rate data across administration conditions. Official record data were collected on about half of this group. Nearly 100 of these participants were retested for instrument reliability analyses. This group was surveyed in two locations:

> VISITING ROOM: The administration groups ranged in size from between 12 to 20. About midway through the data collection, major renovation began on this room and we were required to move.
>
> TESTING ROOM; This room was much smaller than the visiting room so the group size averaged between 10-12.

SHORTENED QUESTIONNAIRE: 215 men took a version of the self-administered questionnaire that was about 20 pages shorter and took about two-thirds the time (about 50 minutes compared to 75 minutes for the standard version) to complete. This group was surveyed confidentially (rather than anonymously) in both the visiting room and the testing room.

INTERACTIVE COMPUTER: Data were collected by interactive computer from 399 men who took the long version of the questionnaire. Data were collected confidentially in groups of five. The logistics of data collection for this method differed from the others in that we collected data every day during a six week period in April and May of 1989. Nearly all residents of DU during this period agreed to participate. There was more one-to-one interaction with participants from this sample because the method was in the process of development and the software was being "debugged" as we collected data. Also, the location of this data collection was behind the DU cellblock in a small room that was occasionally used as a law library.

ANONYMOUS: We did not obtain the names of 146 men who were administered the longer version of the questionnaire. Data were collected from this group in both the visiting room and the testing room.

1986 SAMPLE: 313 men were surveyed confidentially over a four month period in 1986. This group took a version of the questionnaire developed by Rand Corporation researchers (Peterson et al, 1982; Chaiken and Chaiken, 1982) and comparisons with the CONFIDENTIAL MEN described above allowed us to examine instrumentation effects along with differences in study design.

WOMEN: Female inmates were not housed in the Diagnostic Center. Rather, they were housed at the Women's Facility and transported daily to the DU for testing during the first week of admittance. During three separate visits to the Women's Facility, female inmates were randomly and systematically (every X inmate from an alphabetized list) selected from the that day's residents' log. Using this process, a total 134 women were surveyed and 128 completed the instrument. At the time of data collection, the facility housed 110 inmates. The number of inmates participating varied for each of the visits from 32 to nearly 60.

Response Rate

The mean participation rate was above 90%. On two occasions, a "ringleader" verbally disparaged the project and left the testing room. Both times, half the group followed.

We had a high response rate during the 1986 Replication Study, too. We suspect the explanations we posed then (Mande and English, 1988:25) still hold. Foremost, the inmates had nothing else to do. While in the Diagnostic Unit, they were locked down 23 hours a day, excluding meals, "yard" and testing times. Few have access to television or reading materials. This boredom factor clearly worked to our advantage. Also, we noticed early in the project that scheduling a survey group during yard time or during showers negatively affected the participation rate so we organized the data collection during times when these activities were not scheduled. Finally, as in 1986, the correctional staff was cooperative yet they did not discuss the project with inmates beyond telling them "some researchers want to pay you $5.00 to answer some questions." Anything but a neutral attitude on the part of the correctional staff could have affected the response rate.

The mean participation rate was above 90% of inmates who met with us to hear our explanation of the study.

Note that we do not know the number of inmates who refused to participate by refusing to leave their cell. Most correctional officers required inmates to meet with us to hear our explanation of the study, but not all officers did this. Therefore, the response rate we present is *of those who listened to our introduction,* and we believe this is the vast majority of inmates selected.

Sample Representativeness

Since the de facto sampling process did not generate a probability sample, and since the procedures clearly were not immune from violations of selection criteria, we compared the 1988-89 cohorts to data from another sample of incoming prisoners. Table 3.2 compares the current offense (according to the prison file) of 115 women and 414 men (both groups took the long version of the questionnaire, administered confidentially) to the population of inmates received at the Department of Corrections[2] between January 1, 1988 to June 30, 1989. Table 3.3 compares the cohorts across demographic, felony class,[3] prior incarcerations and current offense variables. Recall that the female cohorts are samples of the prison population of residents at the women's facility rather than an incoming group.

TABLE 3.2
SAMPLE REPRESENTATIVENESS: MOST SERIOUS CONVICTION CRIME

	Survey Men (n=414)	Men Sentenced to Prison (n=2083)	Survey Women (population) (n=116)	Women Prisoners (population) (n=249)
Homicide/ Assault With Death	5.3%	2.5%	13.8%	10.0%
Robbery	8.8	7.5	6.9	2.5
Assault/Child Abuse/Kidnap/Menacing	14.6	15.2	5.2	6.0
Theft/Fraud/Forgery	19.1	18.5	41.4	11.0*
Burglary/Trespassing	21.2	17.8	3.4	3.0
Drug Offenses	11.7	15.8	14.7	17.0
Other	9.3	23.7	14.6	51.0
TOTAL	100.0	100.0	100.0	100.0

Data are from the following sources:
SURVEY RESPONDENTS: prison files.
MALE PRISON SENTENCES: the Division of Criminal Justice's 1989 court disposition data set. The court data represent a population of felony case convictions from nine district courts in Colorado for the time period Fiscal Year 1988-89. The sample accounts for 78% of statewide felony court cases.
*Does not include fraud or forgery; these crimes are in the "other" category. Nearly 36% of women in the 1989 court disposition data set fall into the theft/fraud/forgery category.
FEMALE PRISONERS: Department of Corrections Annual Report, 1988-89, p. 25.

There are some differences between the current conviction crime of men in the self report study and the men actually processed through the diagnostic unit. First, it appears the survey cohort may have more violent offenders since the proportion of men in the survey sample who were convicted of murder is nearly double that of the sentencing cohort, and there is an almost 10% increase in the proportion of men in the survey cohort convicted of assault/child abuse/kidnapping/menacing. Further, there are fewer offenders convicted of drug offenses among the survey respondents compared to the sentencing cohort.

Among the women, there appears to be a higher proportion of violent convictions among those surveyed. These differences in violent convictions are consistent with those found between the male samples, however the degree of difference between the female cohorts may be due in part to differences in data (conviction type) coding practices between our data collectors and the Department of Corrections (note that 51% of the female conviction crimes fell into the "other" category compared to 14.6% of the women in the survey sample).

TABLE 3.3
COMPARING SURVEY SAMPLE WITH COURT SENTENCING DATA

	SURVEY MEN (n=414)	PRISON SENTENCES: MEN (n=2083)	SURVEY WOMEN (population) (n=116)	WOMEN PRISONERS (population) (n=249)
ETHNICITY*				
Anglo	50.6%	48.9%	48.8%	47.0%
Black	24.9	20.9	31.7	33.0
Hispanic	23.3	25.5	18.7	15.0
Other	3.0	4.7	.8	5.0
AGE**				
17 or less	.2	0	0	0
18-20	7.8	4.0	.8	2.0
21-25	28.1	27.7	23.8	16.1
26-30	24.2	25.3	28.7	28.1
31-35	18.6	19.7	22.4	24.1
36 or more	21.1	23.4	25.4	29.7
FELONY CLASS/CONVICTIONS*				
1	2.1	1.1	3.3	2.0
2	2.9	2.5	7.3	8.0
3	18.3	20.3	13.8	16.0
4	39.2	39.7	43.1	33.0
5	37.4	36.3	32.5	37.0
PRIOR PRISON?**				
Yes	50.9	52.3	30.1	31.2
No	49.1	47.7	69.9	68.8

*Data from Colorado Department of Corrections.

**Data from the Division of Criminal Justice's 1989 court disposition data set, selecting for prison admissions. The court disposition data represents a population of felony case convictions from nine district courts in Colorado for the time period Fiscal Year 1988-89, and accounts for 78% of statewide felony court cases.

On the four variables examined in Table 3.3, both the male and female survey samples are very similar to the comparison sample.[4] Regarding race, nearly half of all the cohorts were white reflecting

the fact that more than 80% of the Colorado population is white. Women in the survey cohort tended to be slightly younger, but note that we are comparing the survey sample (of prison residents) with an incoming sample because population data were not available.

TABLE 3.4
RACE OF MALE AND FEMALE INCOMING PRISONERS 1985-1990

	1985-86	1986-87	1987-88	1988-89	1989-90*
Anglo	55.3%	54.0%	48.7%	48.8%	49.1%
Black	19.2	20.6	21.9	22.2	24.7
Hispanic	23.1	23.6	25.0	24.5	21.3
Other	2.4	1.8	4.4	4.4	5.0
TOTAL	100.0	100.0	100.0	100.0	100.0

*Data for 1989-90 is projected (Mande and Pullen, November 1990). Actual race data for this time period is not available.

Despite the obvious similarities in the male race comparisons, it is noteworthy that the ethnic composition of the incoming population in Colorado has been changing since the mid-1980s. The proportion of whites entering prison is decreasing while the proportion of all other racial groups is increasing. To the extent that crime participation and frequency, data quality or research method differs systematically by race, this trend in the population from which our study sample was drawn may slightly impact the generalizability of the findings reported here.

It appears our samples adequately represent the population of interest on the specific items examined. However, these were not probability samples so their representativeness cannot be statistically determined.

In sum, it appears our samples adequately represent the population of interest on the specific items examined. However, these were not probability samples so their representativeness cannot be statistically determined.

The Survey Instrument

The 65-page self-administered survey instrument, located in Appendix C, is considerably longer than the 44-page version[5] of the Second Rand Survey instrument used in the 1986 Colorado Replication Study. The first section of the instrument focuses on juvenile and adult criminal activity and, following Blumstein et.al. (1986), contained questions about their rap sheet as a basis for

validating the self-report data. The questionnaire also included questions about the offender's childhood and family. The crime count sections add questions about motivation, initiative, if the offender usually acted alone or with others, and if the crimes recorded included crimes against people they knew. In designing the survey instrument, our objective was to ensure comparability with the Rand studies and with our 1986 replication of the Second Rand Survey while, at the same time, exploring methods of improving it. We restricted our modifications to particular areas which we found problematic during our replication study. These were: (1) the length of the measurement (or "recall") period; (2) the "artificial" 10-crime cut-off to demarcate between low-frequency and high-frequency offending rates; (3) the lack of criminal history questions that might help explain the inconsistencies between official record and self-report data in the 1986 study; and (4) the apparent confusion between burglary, robbery and felony theft. Also, following Blumstein et.al. (1986), we included some childhood questions that might assist criminologists in identifying etiological correlates with later crime rate activity. Each of these modifications is described below.

We restricted our instrument modifications to particular areas which we found problematic during our 1986 replication study.

Length of the measurement period: Our experience collecting data from inmates in 1986 led us to conclude that asking inmates to recall up to 24 months before their current crime was definitely a "difficult cognitive task" (Visher, 1986:177). In that study, we found that 30% of the men in the Colorado sample did not report committing any of the study crimes during the measurement period and were thus considered "inactive" offenders. Comparisons with official data indicated that about half of those who reported no criminal activity were in fact currently serving time for survey crimes.

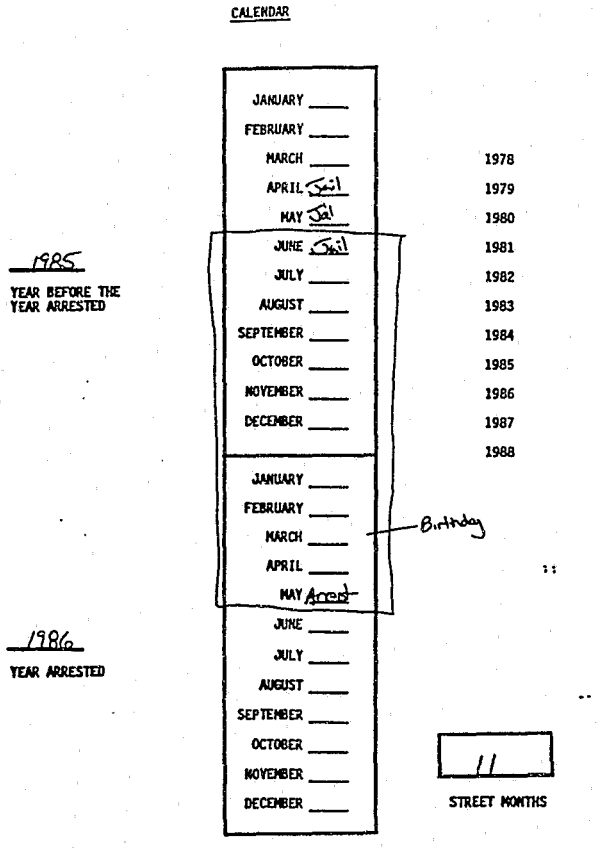
Our experience with apparently confused inmates, combined with the obvious potential recall problems of telescoping (misplacing an event temporally), decay (forgetting), and construction (exaggeration), discussed in general by Weis (1986), led us to change both the length of the measurement period and the method of survey administration. We used a 12-month observation period for the current study in an attempt to minimize confusion and recall effects, as recommended by Sudman and Bradburn (1974).[6] Thus, when time spent incapacitated

In an attempt to minimize confusion and recall effects, we used a 12-month observation period for the current study rather than the 24-month period used by the Rand Corporation researchers.

(in jail, prison or secure youth placement) and hospitalized was eliminated from the measurement period, "street time" (which represents an offender's opportunity to commit crimes) ranged from 1-12 months rather than 13-24 months used in The Rand Survey.

Figure 3.1 provides a copy of a calendar we used to determine a respondent's street time. The calendar was used as a "reference sheet" by inmates as they completed the pages of the questionnaire pertaining to their activity during the street time period. Each inmate worked with a researcher to identify the month in which he or she was arrested for the current offense. That month plus the eleven months preceding it were then marked with a large box that identified the offender's Measurement period. Months incarcerated or hospitalized were marked with an X and "subtracted" from 12 to obtain the total number of street months, which was entered in the box at the lower right.

FIGURE 3.1



The calendar and pages referencing street time were printed on yellow paper to provide a visual cue that distinguished "street time" from other time periods the respondent might remember. The color yellow was used to "anchor" the inmate to the time period critical to the crime rate study.

Crime count sequence: Obtaining information about the number of times respondents committed each of eight types of crimes[7] during the measurement period was the main objective of the instrument. The questionnaire used in the Second Rand Survey and the Colorado Replication asked a series of questions which first distinguished between low frequency offenders (those who committed between 1 and 10 of a specific type of crime) and high frequency offenders (those who committed more than 11 crimes). The low and high frequency offenders completed different portions of the question sequence, and the high frequency offenders were asked an additional series of fairly difficult questions. Possibly as a result of this question format, there were problems with ambiguous and missing data. Consequently, the Colorado 1988-89 questionnaire was simplified to ask "how many months did you do [x crime]?" and how many [x crimes] did you usually do per month?" The modified question sequence was designed to eliminate the "artificial" (Visher, 1986) 10-crime cut-off in Rand's original instrument design. In addition, the modified design added two other frequency questions, separated by at least one page. This is addressed in detail in Chapter 6. Finally, in the computer-administered survey, for most crime types, a set of "interactive" questions concerning the a respondent's answers to crime rate questions. This, also, is discussed in Chapter 6.

The calendar and pages referencing street time were printed on yellow paper to provide a visual cue that distinguished "street time" from other time periods the respondent might remember.

Additional criminal history variables: In 1986, the congruency between official record data and self-report data was poor. For example, less than 14% of self reports of the 1986 Replication sample matched with their official records for age at first conviction. When the ages were compared within two years, 43.9% matched (Mande and English, 1986:41). Too often, researchers assume their measures contain sufficient face or content validity (i.e., face validity is an obvious connection between the concept and the measure, and content validity is the extent to which an item represents a conceptual domain) and their study designs fail to permit investigation of discrepant findings. We wanted to include items in the questionnaire that might help researchers reconcile what appear, at least superficially, to be large discrepancies between self reports and official accounts of respondents' criminal histories.

Thus, in preparation for this project, in 1988 we interviewed 20 respondents from the 1986 Replication Study specifically for the purpose of discussing the inconsistencies between their official record and their responses on the self-report questionnaire. In every instance, offenders were able to

explain the variation: a "police contact" was remembered as an official arrest, an incident remembered as a "lecture and release" contact was recorded as an official arrest; some juvenile activity was not in the prison file; some activity occurred out-of-state and was not recorded in Colorado rap sheets; and so on. For these reasons, we added the following questionnaire items which might provide a basis for reconciling discrepancies between official record and self-report data:

In 1988 we interviewed 20 respondents from the 1986 Replication Study specifically for the purpose of discussing the inconsistencies between their official record and their responses on the self-report questionnaire. In every instance, offenders were able to explain the variation.

How old were you when you were first questioned by the police?
How old were you when you were first arrested (booked) for a felony offense?
How old were you when you were first convicted of a felony offense (not counting traffic, petty or misdemeanor offenses)?
Do you think this conviction is recorded on your rap sheet?
What was the month and year of your first felony conviction?
Not counting traffic violations, how many times in your life have you been arrested?
How many of these arrests were felonies?
How many of these felony arrests occurred in Colorado?
How many of these felony arrests occurred before you were 18?
How many times in your life have you been convicted of a felony?
How many of these felony convictions occurred in Colorado?
How many of these felony convictions occurred before you were 18?
Is your juvenile record sealed?

Data obtained from some of these items are reported in Chapter Seven, but analysis of most of these items was, regrettably, beyond the scope of the current analysis.

Distinguishing between burglary, robbery and theft: Conversations with participants in the 1986 study led researchers to believe that the terms "burglary," "robbery" and "theft" were commonly used interchangeably to describe a wide range of pilfering behaviors. If this occurred systematically throughout the data collection process, crime rates for these offense types could be inflated. Furthermore, several inmates in post-questionnaire interviews, described counting items costing less than $5.00 as a felony theft. These measurement problems were addressed, first, by clearly explaining at the onset of questionnaire administration the difference between "unlawful entry" (burglary) and a hold-up (robbery), and adding visual aids to the definitions of both crime types. Secondly, the wording on the theft definition was altered to include "items over $300" (this dollar amount distinguishes felony theft from misdemeanor theft under Colorado statutes). An assessment

of these changes is discussed in Chapters Five and Six.

In sum, these four areas of instrument modification--length of the measurement period, the crime frequency question format, additional criminal history variables and distinguishing between burglary, robbery and theft--were concerns of data reliability in the 1986 Replication study and were addressed by changes in the questionnaire and by incorporating the exploratory use of the interactive computer administration of surveys as a data collection method.

Field Procedures

Questionnaire Administration

Data were collected one evening a week for 16 months. After respondents were transported to the survey area, a consistent process was employed to inform inmates of the project and request their participation. Following the procedures developed by Rand researchers (Peterson et al, 1982), surveyors introduced themselves and read a statement of research intent which emphasized that participation was voluntary, that participants would have $5.00 credited to their prison account, and that completed survey instruments would remain entirely confidential. Respondents were informed that their selection from the cellblock was random, and that the project was completely independent from the prison system. Appendix A contains the introduction materials and the consent form.

It took respondents between 30 and 90 minutes to complete the long version of the instrument; it took 20 to 45 minutes for respondents to complete the shorter version.

In general, it appeared respondents had little trouble completing the questionnaire. It took respondents between 30 and 90 minutes to complete the long version of the instrument; it took 20 to 45 minutes for respondents to complete the shorter version.

Two of the surveyors who participated in the 1986 Replication study trained the '88-89 surveyors and at least one was present for each group surveyed for this study to maintain administration consistency between the two Colorado projects. The instrument was pretested first in a local jail by the trainers and then at the prison Diagnostic Unit with the entire survey staff. The ratio of researchers/survey administrators to inmates was 1:6 to allow for maximum availability in answering questions.

The method of administration was changed in two important ways from the Rand studies and the Colorado Replication: (1) researchers emphasized a clear distinction between burglary and robbery during the verbal introduction to the questionnaire, and (2) surveyors explained the measurement period was explained to each respondent individually and each person's "window period." Page 20

of the instrument includes an imposing picture of a stop sign requiring respondents to raise their hand for assistance before continuing. Researchers helped "anchor" the respondent in the time period that was their specific measurement period. Further, page 21 of the questionnaire, which asked "during the [x number of] street months were you" locked up, in the military, in the hospital, in school, employed and, if so, for how many months?". Respondents and surveyors together completed Page 21. This one-on-one interaction took between 5 and 10 minutes and provided, for this portion of the data collection, a relatively structured interview format. That is, researchers asked respondents about significant events that may have occurred that year (got married, had a child), when their birthday was in relation to the current arrest, various addresses or towns they lived in and when they moved during the measurement period. This limited use of interviewing for the purpose of identifying the individual's measurement period allowed researchers to assess whether the respondent was cognitively "tracking" the concept of the measurement period and providing consistent, reasonable information. Researchers worked with individuals until they were confident that the respondent had identified the correct time period and understood basic questions asked about this period; respondents who clearly were unable to comprehend the instructions were allowed to complete the instrument if they chose, but the questionnaire was not used in the analysis. This situation arose less than a dozen times.

Researchers helped "anchor" the respondent in the time period that was their specific measurement period, by asking about significant events that may have occurred that year, got married, had a child, when their birthday was in relation to the current arrest etc..

Conditions of survey administration

Confidentiality versus anonymity: Most of the data were collected with written guarantees of confidentiality. In this situation, respondents were informed that a 5-digit number on their questionnaire corresponded to their name. These respondents were told that after the researchers left the prison their names would be kept in a locked cabinet separate from their questionnaire. We also told them we might use their name to collect information out of their prison file or to track them later to request an interview.

One-hundred forty six (146) men were surveyed anonymously. These respondents were given written guarantees that their identities were anonymous and, except for their signed consent form which gave us the necessary documentation to credit their inmate accounts with the participation fee, we would never know their names. We found this method generated more discussion and questions on the part of participants before they agreed to participate. They found it hard to believe that they

had been pulled from their cells randomly and that we did not know who each man was. Indeed, we had to obtain participant's names in order to credit their inmate account with $5.00, and with relatively little effort we could have connected each man's name with his questionnaire. Given this situation, it seems understandable that some inmates took umbrage with our assurances of anonymity, and we found these conditions less than ideal.

We found the anonymous method generated more discussion and questions on the part of participants before they agreed to participate.

Location: About half of the men were surveyed in the prison visiting room. This setting was large and "neutral" since very little official prison business goes on in the visiting room and the prison staff were not visible. Most of the inmates (unless they had done time previously in the adjoining medium security prison) had never seen the area before. However, we were required to move when the visiting area underwent lengthy renovation. The only other space available to us was the Diagnostic Unit's official testing room. This small glass room was located just outside the cellblock and was familiar to all the respondents because it was the official testing area. The space was located off a major hallway with correctional officers passing by, and we feared that our project might not seem autonomous from the prison system. In fact, the first few weeks we worked in this room our response rate declined slightly. Thus, we changed the introduction presentation to emphasize our independence from the prison system, encouraged questions about our agency, and the response rate returned to above 90 percent. This unavoidable situation presented us with an unplanned opportunity to analyze the effect of different locations on sensitive crime rate information.

Paper/pencil survey administration: Most of the data were collected in the form of self administered, paper and pencil questionnaires. This method of administration is familiar to research subjects, and requires very little in the way of supplies (just a pencil and photocopies of the questionnaire).

Computerized data collection: Crime rate data are sensitive information to collect, particularly in a prison milieu where information can and is used against offenders both by staff and by other inmates. Administering the questionnaire anonymously was one approach we examined that might increase respondent's comfort level in terms of divulging sensitive data. Another method we explored to address this issue was using interactive computers. Sometimes used in industry in the area of personnel (Martin and Nagao, 1989; Lobrovich, 1982; Rodgers, 1987), this method has the advantage of avoiding the phenomenon of respondents providing the socially desirable responses that is often occurs during face-to-face interviews, while allowing for some interaction with the subject. There is some empirical support that respondents may feel more comfortable interacting with a

computer and that, at a minimum, their responses are at least as reliable as those obtained from paper-and-pencil methods (Reilly and Chao, 1982; Greist, 1975; Evan and Miller, 1969; Elwood, 1969). Some researchers have found that the procedure is perceived as "fair and just" by respondents (Folger and Martin, 1986; Greenberg, 1986). Thus, we developed an exploratory data collection method using computers to administer the questionnaire. This method was tested on nearly 400 inmates.

Toshiba, Inc., donated five portable computers for the project. These machines had monochromatic screens, so color monitors were attached to the portables to emulate the use of color in the paper/pencil version (i.e., using yellow for questions pertaining to crime activity) during the measurement period. The five computers were set up in a small room sometimes used as a law library by residents of the Diagnostic Unit. This room was located inside the cellhouse and data collection was conducted continually 12 hours per day to survey a maximum number of respondents. The first five respondents each day were read the introduction materials as a group but because completion time varied considerably, other participants throughout the day were given one-on-one explanations of the project and confidentiality assurances.

Logistical considerations made the computer method of survey administration considerably more difficult compared to the paper/pencil questionnaires.

Logistical considerations ranging from transporting equipment through prison clearances to acquiring all-day locations with adequate electrical outlets made this method of survey administration considerably more difficult compared to the paper/pencil questionnaires.

Official Data Collection

Official data, collected from Colorado prison records, were obtained primarily from the presentence investigation report prepared by the district probation department, copies of the offenders' state and FBI rap sheet, and intake data collected by the prison staff during the offender's stay at the Diagnostic Unit. One of the surveyors with extensive experience collecting data from prison files and who collected all the official data for the 1986 study led a team of data collectors, so there was considerable continuity of personnel across the data collection tasks. The official record data collection form (located in Appendix B) was designed to collect detailed criminal history information, particularly during the measurement period identified in the questionnaire, plus a number of demographic and drug-use data items which could be used for criterion validity analysis. The data collection form also included specific items from the Colorado Actuarial Risk Scale (Mande and English, 1988) so that

future studies could compare risk of reoffending with crime commission rates.

Qualitative Data: Interviews

Twenty respondents from the 1986 study and 33 inmates from the 1988-89 study were interviewed in person by researchers who collected the earlier survey data from them. In 1988, 20 high-rate offenders (those reporting more than 100 crimes per year) were interviewed in prison two years after they took the Rand Replication questionnaire in 1986. Two (of five) researchers who had originally surveyed the offenders in 1986 returned to the prison in 1988 with actual copies of each offender's official CCIC (Colorado Crime Information Center) rap sheet and handwritten notes of data gathered in the study questionnaire. Qualitative data were collected during the interviews concerning their crime activities during the original study period and also about discrepancies between their official record and self report data. In these cases of high-rate offending, the self-report data obtained during the interview was consistent with the questionnaire.

In 1990, 20 female respondents reporting activity in a variety of crimes were interviewed 3-6 months after completing the questionnaire to obtain more information about their current conviction offense. Researchers compared interview responses with quantitative data contained in the questionnaire to explore data reliability and, as with the 1986 male interviewees, the self-report data was found to be reliable.

In 1991, 13 male respondents were interviewed nearly two years after completing the questionnaire in the prison's diagnostic unit. These respondents were specifically selected because they reported committing either none or only one study crime during the reference period, and we suspected these responses were not valid. Of the original 872 men surveyed confidentially in 88-89, less than 30 very low-rate (reporting none or one) offenders were still incarcerated and available for interviews in 1991. Thus, the conviction crime for all of the interviewees was serious and may not be representative of others in the sample who reported crimes at low rates and who had already been released from prison.

Interview data help researchers better understand the meaning and context of the responses to self-administered questionnaire items.

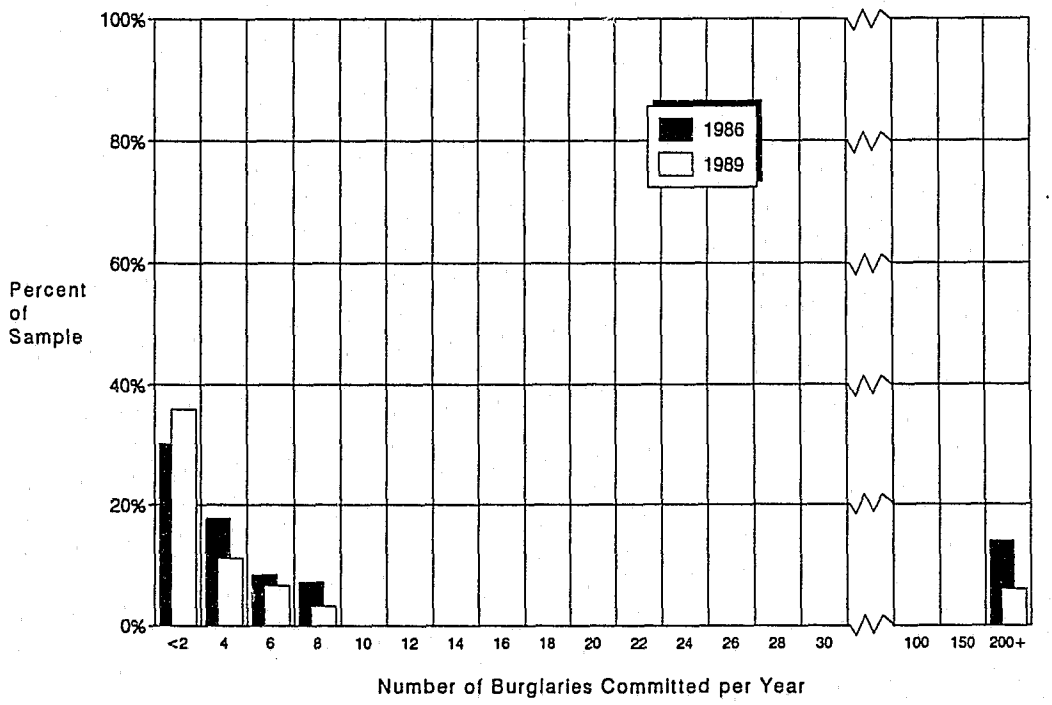
Interview data help researchers better understand the meaning and context of the responses to self-administered questionnaire items. This information was rich in content and useful for exploring measurement issues, yet was not collected for the purpose of systematic analysis. Thus, these data are presented to assist in the interpretation of the quantitative findings.

Data Analysis

Reliability of self reported crime rates can be assessed only in relative terms, that is, without an independent indicator of actual offending rates. Estimates of crime rates must be compared across studies, subsamples, and questionnaire items used to measure crime rates. The analysis of reliability was essentially the same: the data were explored descriptively to examine the proportions of respondents falling into specific offending type and rate categories, and statistical tests, described below, were used to assess variations in the distribution of average crime rates across the various methods of administration methods and questions. In this section, first the data are discussed in terms of its skewness, then the statistical procedures employed are described.

FIGURE 3.2

Crime Rate Distributions Are Skewed:
Distribution for Inmates who Commit Burglary



1986: n=96
1988: n=181

An important consideration in the data analysis is the fact that these data are not normally distributed. Rather, as shown in Figure 3.2 , the distribution of crime frequency estimates are extremely skewed with most active[8] offenders reporting very few crimes and a few offenders reporting hundreds, sometimes thousands, of crimes. The measures of central tendency for the 1988-89 active Burglary group illustrate the skewness: the mean is 68.6; the median is 6; and the mode

is 1. Most standard parametric statistics assume that data are normally distributed. Consequently, non-parametric tests were used to assess the significance of differences in crime rate distributions obtained under different conditions (independent sample tests) and from different questions (related samples tests).

An important consideration in the data analysis is the fact that these data are not normally distributed. The measures of central tendency for the 1988-89 active Burglary group illustrate the skewness: the mean is 68.6; the median is 6; and the mode is 1.

Comparing Estimates of Reported Crime Rates Across Administration Conditions

The Kolmogorov-Smirnov two-sample test was used to measure differences in the offending frequency distributions obtained by collecting data under different conditions or across genders. This non-parametric procedure is a test of whether two independent samples are likely to be drawn from the same population (or from populations with the same distribution). The test examines cumulative distributions in two independent samples (for example, men and women) by focusing on observed deviations between the largest data interval, subtracting one step function from the other. Using SPSS/PC, the Kolmogorov-Smirnov test generates a z-score and measures differences in central tendency, dispersion and skewness. It is about 95% efficient compared to the t-test, is more powerful that either the chi-square test or the median test and is especially power-efficient for small samples (Siegel and Castellan, 1988). Since criminal activity is disaggregated into eight crime types, sample sizes tested in this study occasionally numbered fewer than ten (for example, only nine women reported committing burglaries). The Kolmogorov-Smirnov test uses interval data to determine rank differences (Hollandar and Wolfe, 1973:222), but the data must be examined visually, either with graphs or tables, to ascertain where in the distributions a difference(s) exists.[8] Figure 3.3 is a graph comparing the cumulative distributions of self-reported burglary rates for men and women in the current study. The more skewed the distribution of offenses, the more convex the cumulative offense curve will appear (Fox and Tracy, 1988). An example is presented below.

Cumulative percentage distributions indicate what proportion of a cohort committed what proportion of total crimes. The more skewed the distribution of offenses, the more convex the cumulative offense curve will appear (Fox and Tracy, 1988).

Cumulative percentages indicate what proportion of a cohort committed what proportion of total crimes. Figure 3.3 indicates that 10% of the active female forgers were responsible for 81% of

all forgeries by sampled women, while active male forgers were responsible for 92% of the forgeries committed by male respondents. The forgery distribution is more skewed for males than for females, and the difference is statistically significant ($p = .079$). In the chapters that follow, cumulative offense distributions are graphed only when the differences between rates are statistically significant.

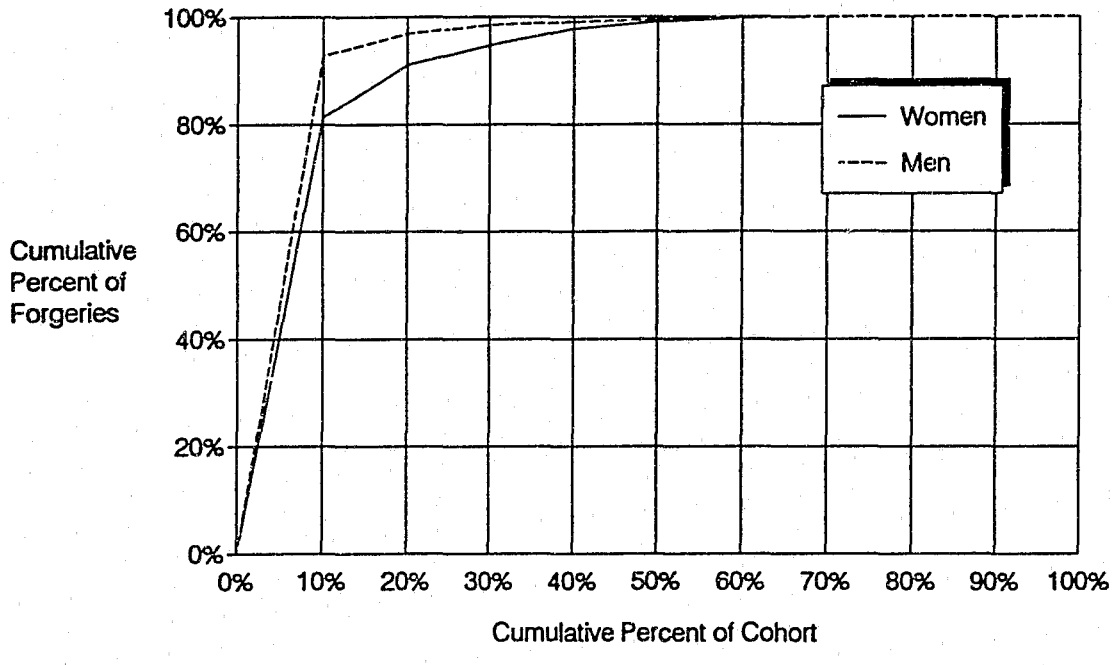
Participation is measured dichotomously with "yes-no" answers to questions such as "did you do burglaries?". When $n > 40$, the X^2 corrected for continuity is reported (Siegel and Castellan, 1988) since larger sample sizes increase the probability of rejecting the null hypothesis.

To compare the distribution of crime rate across question formats, the Wilcoxon signed-ranks significance test (for one sample, two measures) was employed. This test assesses the differences in magnitude and direction between the paired values (one pair per case) of two ordinally measured variables. This test gives more weight to a pair that shows a large difference than to a pair which shows a small difference (Siegel and Castellan, 1988). In this study, the Wilcoxon test was used to evaluate within-group differences resulting from different question formats. This test, which calculates a z statistic, measures whether respondents were equally likely to get a higher or lower lambda on the second question when a pair of items are tested. Ties indicate equal scores on different crime rate questions.

FIGURE 3.3

Cumulative Offense Distributions: Men and Women*

FORGERY



*These distributions were different at the .10 level of statistical probability.

Men n= 113
Women n=36

Data Quality Analysis

Several measures of association were used in the test-retest analysis and the comparisons between official record data and self reports. Correlation analyses determine the extent to which one item varies with another. Depending on the level of measurement of the variables studied, the phi coefficient (nominal), Spearman and/or Kendall rank-order correlations (ordinal), and Pearson's r (interval) were used (Siegel and Castellan, 1988). Also, the proportion of the cohort that matched in the test-retest or official record/self reports analyses is reported.

Statistical Significance

Determining the level of statistical significance appropriate for assessing differences depends on theoretical (a researcher's approach) and mathematical (statistical power) considerations (Kraemer and Thiemann, 1988:5-11). That is, the research question combined with the size of the cohort analyzed and the power of the test are the criteria used to determine a significance level that gives the null hypothesis a reasonable chance of being rejected.

The Research Question: The primary research question concerns whether there was a difference in aggregate offending rates across the various methods and condition. If there are differences, we might conclude that the method used to obtain the data has an effect on that data, leading to questions about which method is better. Given the importance of self reported crime rate

Research Hypotheses:	There are differences in aggregated, self reported crime rates across administration conditions, questionnaire designs, question formats and gender.
Null Hypotheses:	There are NO differences in the aggregated, self reported crime rates across administration conditions, questionnaire designs, question formats and gender.

data for the development of delinquency theory and crime control policy, making a Type II (or *alpha*) error (i.e., not detecting a true difference in the population when one does, in fact, exist) would undermine the objectives of this research. In other words, as researchers working with both policy makers and academic criminologists who use self-report data to develop programs and theory, we hope the data are stable across varying conditions. To the extent that these data are used in practical endeavors, as they have been over the past ten years, we hope our research hypotheses predicting a difference will be in error. Therefore, to be conservative in our approach, we want to give the research hypotheses ("There are differences") every opportunity to find support and, conversely, the

null hypothesis ("There are no differences between methods") every opportunity to be rejected.

The Mathematical Consideration: Because some of the study cohorts are very small[10] (confidential men who reported fraud activity numbered 58; anonymous men numbered 6 for a total of 64) and statistical variances are large[11], only very large differences in the aggregate distributions would be statistically significant at the probability level of .05 and might be nearly impossible to obtain at the .01 level. Specifically, using the fraud sample with 64 respondents, power tables indicate that we have just over a .42 chance of identifying differences at the .05 level of probability and only about .12 chance of observing a difference at the .01 level. This chance increases to .78 at a probability level of .10. Thus, even if differences indeed exist, small sample sizes limit our ability to detect them.

> One's initial response is to choose a power value of 99 percent to be virtually certain of demonstrating significance if the alternative hypothesis is true. However, that is usually impossible because the number of subjects required per group to satisfy the requirement that power be .99 is almost certainly going to be prohibitive. Thus, one settles for a lesser value, generally in the .7 to .9 range (Kraemer and Thiemann, 1988:10).

If statistical differences exist, it is our hope to detect them and avoid making Type II errors. Although the small samples mean detection may be difficult, the Kolmogorov-Smirnov test for comparing distributions is the most powerful test available to address this research question. Thus, the level of statistical probability used to test the hypotheses pertaining to differences in aggregate offending rates is .1, unless otherwise noted. This means, essentially, that we are willing to accept a 10% chance of incorrectly rejecting the null hypothesis. When data are truncated or logged to reduce the variance, the level of statistical probability is modified where noted. In most instances, the actual p value is reported so those who wish to use different criteria for assessing differences may do so.

Although the small samples mean statistical differences may be difficult to detect, the Kolmogorov-Smirnov test for comparing distributions is the most powerful test available to address this research question.

However, other research questions addressed in this report are not tested at the .10 level of probability due to considerations of power and theory. For example, questions of participation in a particular crime type during the study period may vary across testing conditions and frequently the subsample sizes used in these analyses are quite large. In this case, the power of a statistical test is so large that even very small differences would be significant. Nevertheless, our practical/theoretical concerns about the stability of crime rates is still present so these issues must be balanced. In addition, test-retest reliability, data validity analyses, and

relationships between crime activity and demographic characteristics derive from different questions and sample sizes. For these questions, the level of statistical probability used is .05 or less, and is discussed when the findings are presented.

Because methodological concerns are the focus of this research, the approach to data analysis is discussed in further detail in each chapter.

Missing or Ambiguous Data

There were very few instances of missing data on the variables required to estimate the participation and crime rates. Ambiguous data tended to fall into two categories: after indicating activity in a particular crime type, (1) respondents said "0" in answer to the question "how many months did you do x crime?" or (2) respondents left blank the item asking "how many x did you usually do?" (these were often the same respondents). These responses were disallowed by the software program so inmates had to ask for assistance when they tried to enter these "ambiguous" data. Interviews with dozens of computer respondents indicated that these were the responses (or the would-be responses) of inmates who reported they did only one crime or only did crimes for one month. Thus, cases with "ambiguous" responses of "0" to the first question were recoded to "1" in the data analysis after confirming that one of two other items (a continuous-format question or an ordinal-format question) in the same question sequence "agreed" with the recode decision.

For cases in which responses to both questions were ambiguous, but for which the continuous variable was consistent with the ordinal variable, the continuous variable was entered as the effective crime rate (these question types are described in detail in Chapter Six). Other cases where the ambiguity could not be resolved (1.9% of the sample) were excluded from analyses of participation and frequency.

Coding and Data Entry

Each completed questionnaire was examined manually and the numerical response to each question was clearly written in red pen on the right hand margin of each page for ease of data entry. Data were entered in machine readable form by state keypunchers who double-entered every form.

Organization of this Report

This report is organized as follows: Chapters Four and Five address two dimensions of the criminal career, participation and frequency, and compare these across administration conditions. Chapter Six explores crime rates obtained from three different question formats. Chapter Seven assesses the quality of the data by examining the differences between official record data and self

reports of about 414 men and 115 women. Also presented in this chapter are the results of a test-retest analysis of 85 men to explore the reliability of lambda data. Chapter Eight examines gender differences in crime participation and frequency, attitudes toward crime and money, and drug use. Finally, Chapter Nine summarizes the findings in a framework valuable to researchers and policy makers alike.

A final note about data quality. Given that a considerable number of research findings are reported in Chapters Four, Five and Six--before the discussions of data quality in Chapters Seven and Eight--we present the following "preview" of the data quality findings summarized at the end of the last two chapters:

> *The comparisons between self-report data and official record data produced findings similar to those reported on the 1986 Colorado prisoner study (Mande and English, 1988) and those reported by Rand researchers (Chaiken and Chaiken, 1982; Marquis and Ebener, 1981): demographic items were most consistent, and consistency for criminal justice events improved as the event became "less ambiguous" (for example, whether an official police arrest occurred could be considered a more ambiguous event than a prison sentence).*
>
> *Test-retest coefficients for demographics were generally above .9, and again we found that consistency increased as the criminal justice event became less ambiguous.*
>
> *The skewed distributions of the crime frequencies remained constant regardless of the administration method or the question format. Evidence is strong, however, that where exact counts of crime volumn are required, these data will not suffice.*
>
> *Overall, the data appear capable of supporting the analytical conclusions we present in Chapters Four through Six.*

ENDNOTES--CHAPTER THREE

1. Correctional officers likely told inmates who asked why they were being instructed to leave their cells that they would be administered a questionnaire. Prison staff were informed that we would work with inmates who could not read, but staff may not have communicated this to illiterate offenders.

2. These data were obtained from the Department of Corrections Research Office. These data are used by the Division of Criminal Justice to estimate projections of the state prison population.

3. Colorado statutes have six felony classes. A Class 1 Felony is a first degree murder or first degree kidnapping, and lesser crimes follow in decreasing numerical order. The Class 6 Felony is a recent addition, composed of what were previously serious, violent misdemeanors, and some less serious class 5 felonies; since this classification category was not created until 1989, it is not used in this analysis.

4. Ethnicity and age were compared for men who took the shortened version of the questionnaire. For these variables, the distribution for age was nearly identical to the population of intakes during the study period but the sample contained slightly more whites and fewer blacks and hispanics: whites = 56.5%; blacks = 21.0%; hispanics = 18.7%. The extent to which this difference is due to an underrepresention of non-readers and non-English-speaking respondents is unknown.

5. The original Second Rand Survey Instrument was longer than the version administered in Colorado in 1986. Since the Rand sample was a population cohort weighted to simulate an intake cohort, the final section of the survey instrument asked questions pertaining to the respondent's prison experience. Since the Colorado sample consisted of inmates who had just arrived at prison, this section was omitted from the replication questionnaire.

6. A discussion about the measurement period and recall problems is presented in Chapter 2.

7. The crimes studied were burglary, robbery, assault, theft, auto theft, forgery, credit card and check-writing crimes, fraud and drug dealing. See Chapter 4 for specific wording of the questions.

8. An "active" offender is one who reported activity in a given crime type. "Inactive" offenders did not report committing any of the eight survey crimes.

9. Fox and Tracy (1988) discuss a method for geometrically measuring the extent of differences in offense distributions. The present study is concerned only with determining <u>if</u> a difference exists and not with calibrating the magnitude of that difference.

10. Smaller study groups increase the probability of finding no difference when, in fact, a difference does exist in the population.

11. Large variances decrease the statistical power afforded to us in detecting differences.

CHAPTER FOUR

PARTICIPATION AND LAMBDA DIFFERENCES ACROSS TWO TIME PERIODS:

COMPARING CRIME ACTIVITY FROM 1986 AND 1989 STUDIES

The National Academy of Sciences recommends partitioning individual criminal activity into specific dimensions (participation, frequency, seriousness and career length) and exploring, separately, the causal factors associated with each (Blumstein et al, 1986:Vol 1). In this and subsequent chapters, we analyze the reliability, over time and across various data collection methods, of prisoner self-reports of crime participation and frequency.

According to Visher and Roth (1986), participation is an indicator of the pervasiveness of criminal activity and is important in understanding the causes of crime. For this study, current participation is defined as actively committing criminal offenses during a specific measurement period when respondents were free to commit crimes.

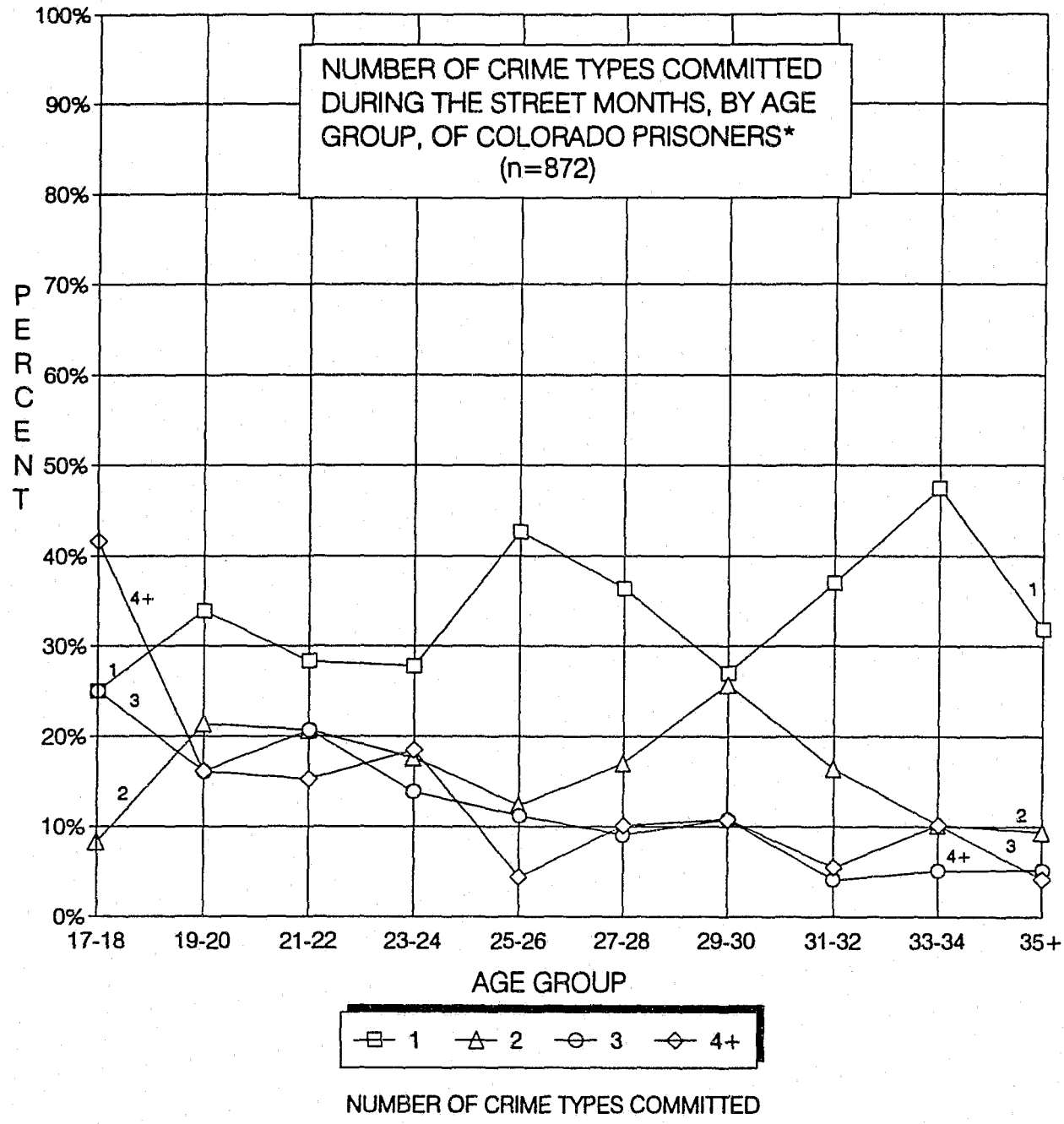
Why study participation rates?

Participation denotes that segment of a study cohort that is currently participating in crime. According to Visher and Roth (1986), participation is an indicator of the pervasiveness of criminal activity and is important in understanding the causes of crime. Testing criminological theory and developing effective public policy requires

> ...an understanding of how participation varies across subpopulations, and of what factors are associated with greater risk of future participation (Visher and Roth, 1986:211).

Also, Cohen (1986:293) notes that offenders may "specialize," i.e., participate most often in one type of crime, or "generalize" and commit a variety of crimes, and these patterns of offending may characterize other aspects of a career such as career length or seriousness. For example, we know that crime variety declines with age, as indicated in Figure 4.1. Differences in participation rates by offender characteristics have implications for the development of accurate theories and appropriate crime control policies.[1]

FIGURE 4.1



*The survey asked specifically about burglary, robbery, assault, theft, motor vehicle theft, forgery, fraud, and drugs,(i.e,..a person reporting involvement in both burglary and fraud would score "2 crime types" on this scale. This is sometimes refered to as crime variety).

For this study, current participation is defined as actively committing criminal offenses during a specific measurement period when respondents were free to commit crimes. This measurement period is a major methodological focus of the current chapter because the *length* of the measurement period will affect the composition of the study sample (Cohen, 1986; Rolph and Chaiken, 1987). This is because the criterion for activity is *self-reported participation* in at least one of the crime types included in the questionnaire (the questionnaire used in the present study requested information about eight crime types). Offenders with low levels of criminal activity are less likely to have been active during any bounded measurement period and the fraction not active increases as the measurement period gets shorter. As discussed by Cohen (1986), this concentration of high-rate offenders naturally also means a smaller fraction of offenders will be actives, i.e., the shorter the measurement period the more likely the sample will be limited to higher rate offenders. Cohen illustrates this by noting (1986:Table b-35) that in a one-day sample of an offender population, the highest rate offenders are more than 200 times more likely to be sampled than the lowest rate offenders.

Visher and Roth (1986:211-212) provide an overview of the definitions of participation that can affect the rates researcher's obtain:

> ...[regarding crime participation], standardization is lacking across authors with respect to the base (e.g., a cohort, a population, surviving cohort members not already offenders) and the observation period (e.g., lifetime, lifetime through a stated age, preceding year, time between record updates, time not incarcerated between record updates). Even when the measures are standardized with respect to these variables, their values depend on the *domain* of "crime" in which participation occurs (e.g., all offenses, index crimes, felonies, specific crime types) and on the participation *threshold* (self-reported commission, self-reported police contact, recorded police contact, court referral, conviction). Therefore, comparison of estimated values across studies is not at all straightforward. (Emphasis in original.)

For inmates who took the 1986 questionnaire, participation rates are a reflection of respondents who did one or more of the eight study crimes over a two-year period; inmates taking the 1989 questionnaire were asked about participation in study crimes over a one-year period. Samples drawn in this fashion may represent two different groups of offenders (Cohen, 1986), and participation rates may vary accordingly. We shall return to this issue later in the chapter.

Why Study Frequency Rates?

Individual crime frequencies (lambda, λ) are important to the study of crime, criminality and crime control. As expressed by Cohen (1986: Appendix B):

> The level of crime experienced in a society varies with both the participation by individuals in that society and the frequency of offending by active offenders....Frequency rates may vary substantially across active offenders, with some offenders having very high rates and others low rates of offending. Frequencies may also vary over time for an individual. Individual offenders who have the highest frequencies will contribute most to total crimes (p. 292).

The distribution of annualized crime rates, λ,[2] across prison samples of active offenders is extremely skewed, with most offenders reporting fewer than five crimes during the year preceding prison while the most active 10 percent of the sample may report committing hundreds or even thousands of crimes. Demographic, criminal history, drug use and lifestyle correlates of low and high-rate offenders may be useful in developing both criminological theory and criminal justice programs (Chaiken and Chaiken, 1985).

Demographic, criminal history, drug use and lifestyle correlates of low and high rate offenders may be useful in developing both criminological theory and criminal justice programs (Chaiken and Chaiken, 1985).

Here, the λ calculation, described in Chapter Two (Equation 2), was performed for all offenders who reported that they committed at least one of a given crime type. Precisely because of the importance of the actual frequency estimates to criminal career research, the questions raised in the current chapter are not about the specific rates estimated but whether distribution of the aggregate rates were reliable across the methods we explored.

In this chapter we compare two prisoner cohorts, one from our replication of the Rand Second Survey conducted with incoming prisoners in 1986 (Mande and English, 1988) and the other from the current study sample. Both cohorts were selected randomly, yet they may differ since three years lapsed between studies. Therefore, we first compare the samples on demographic, criminal history and current crime variables. These differences should be kept in mind later as we discuss findings in this chapter. Next, we address crime participation: how we measured it and what we found. We then discuss crime frequency, i.e., λ estimates for both cohorts. Our findings are summarized at the chapter's end.

Cohort Differences: 1986 and 1989

Using data obtained from a sample of state-wide felony case filings (collected annually by the Colorado Division of Criminal Justice since 1980), and selecting only those cases sentenced to prison, Tables 4.1 through 4.4 reflect important differences between the group of offenders entering the Colorado Department of Corrections in 1986 and 1989. Note that the felony filings sampling frame is the same in the two years presented below: In 1986 we used a 10% sample of ten judicial districts in the state; in 1989, data were collected on 20% of the cases in the same ten districts. The number of cases in the two years reflect the differences in the sampling probability.

TABLE 4.1
PRISON ADMISSIONS AMONG FELONY FILINGS: 1986 AND 1989
DEMOGRAPHIC CHARACTERISTICS

RACE/ETHNICITY	1986	1989
Anglo	55.3%	46.0%
Black	20.0	25.9
Hispanic	23.7	26.4
Native American	.5	1.2
Other	.5	.5
TOTAL (n=599)	100.0 (190)	100.0 (409)
MARITAL STATUS		
Single	44.6	50.7
Married	28.0	20.4
Sep/Divorced	25.7	28.4
Widowed	1.7	.5
TOTAL (n=562)	100.0 (175)	100.0 (387)
EMPLOYED AT ARREST		
Full Time	30.4	30.1
Part Time	.6	4.5
Unemployed	57.1	59.2
Sporadic	8.9	6.2
TOTAL (n=570)	100.0 (168)	100.0 (402)

*Data from a 20% sample of state-wide felony case filings, selecting cases sentenced to prison.

TABLE 4.2
CRIMINAL HISTORY: 1986 AND 1989 COHORTS

NUMBER OF JUVENILE CONVICTIONS	1986	1989
0	43.7%	55.2%
1	12.7	11.7
2	10.2	7.6
3+	33.4	25.5
TOTAL (n=613)	100.0 (197)	100.0 (446)
PRIOR CONVICTION FOR BURGLARY, ROBBERY OR THEFT*		
Yes	59.4	48.9
No	40.6	51.1
TOTAL	100.0	100.0
PRIOR FELONY AGAINST A PERSON IN LAST 5 YEARS?*		
Yes	10.3	17.0
No	89.7	83.0
TOTAL	100.0	100.0

*Includes juvenile offenses.

TABLE 4.3
SUBSTANCE ABUSE PROBLEMS:1986 AND 1989 COHORTS

ALCOHOL PROBLEMS?	1986	1989
Yes	48.4%	62.3%
No	51.6	37.7
TOTAL	100.0	100.0
DRUG PROBLEMS?		
Yes	53.8	69.2
No	46.2	30.8
TOTAL	100.0	100.0

TABLE 4.4
CURRENT OFFENSE

FELONY CLASS CHARGED	1988	1989
1	2.0%	1.8%
2	5.6	5.3
3	49.2	50.2
4	34.0	30.9
5-6	9.2	11.8
TOTAL (N=642)	100.0 (197)	100.0 (445)
DESCRIPTION OF OFFENSE: BEHAVIOR SEVERITY		
1 No Information, No Aggression	51.1%	51. 5%
2 Verbal Aggression	2.6	5.0
3 Non-Directed Physical Aggression	3.5	5.8
4 No Weapon, Minor Injury	8.3	13.1
5 Negligent Death	.6	1.3
6 Major Emotional/Or Physical Injury, No Weapon	.6	6.3
7 Death, Victim Participation	.3	.8
8 Life Threatening Force	26.2	12.8
9 Murder, No Aggravating Factors	2.2	1.3
10 Death, Aggravating Factors	4.6	2.1
TOTAL	100.0	100.0
PHYSICAL INJURY THIS CASE?		
No	85.8%	82.9%
Yes	14.2	17.1
TOTAL (n=636)	100.0 (197)	100.0 (439)

Table 4.1 , concerning demographic characteristics, shows a larger proportion of non-Anglos entering prison in 1989. The percentage of black prisoners at intake increased by nearly six percentage points; Hispanic intakes increased by nearly three percentage points. Differences in marital status indicate more single (never married) offenders entering prison in 1989. This change is important; research on the actuarial risk of reoffending by Colorado prisoners released in 1982 and 1987 found "never married" to be predictive of failure when combined with ten other variables (Mande and English, 1987; English, 1990). Employment, also found to be an indicator of actuarial risk (Mande and English, 1987), changed very little in the two time periods. Age distributions were very similar

between the two cohorts: the mean age in 1986 was 30.04 compared to 29.96 in 1989 (data not presented).

Criminal history indicators, shown in Table 4.2, also suggest differences between 1986 and 1989 prison intakes. First, a much larger proportion of the 1989 group had no juvenile convictions recorded in the district court file (55.2% compared to 43.7%), and one-fourth of the 1989 intakes had a record of three or more juvenile convictions compared to one-third of the 1986 intakes. Likewise, there was a 10.5 decrease in the percentage offenders with a prior conviction for burglary, robbery or theft. Violent past offenses, however, increased: 17% of the 1989 group compared to 10.3% of the 1986 group had been convicted of a violent felony within five years of the current sentence.

As shown in Table 4.3, there appear to be considerably more offenders in the 1989 prison intake cohort, compared to the 1986 group, with alcohol and/or drug problems recorded in their court file. Given the recent emphasis on substance abuse, this finding may reflect changes in record-keeping practices as much as changes in offender profiles. To the extent that these changes reflect real increases in substance abuse problems, memory and recall abilities may be diminished in the 1989 cohort (see Chapter Two for further discussion of this issue), and this would have negative implications for our ability to accurately measure retroactive criminal behavior among offenders in the 1989 cohort.

In Table 4.4, concerning characteristics of the current offense, there appear to be few changes in the felony class of the original charge.[3] Using a scale developed to describe the behavior involved in the instant offense,[4] the conviction crimes of 1989 cohort appear to have included more aggressive behaviors (categories two through six), but less deadly ones (categories eight through ten). Indeed, 16.2% of the 1989 crimes (compared to 33.0% ib\n 1986) involved life threatening force or aggravated death.

The 1989 sample contained more blacks and hispanics, more never married-inmates, more offenders with no juvenile convictions, and more offenders with a recent violent conviction. Drug convictions more than doubled.

TABLE 4.5
CONVICTION OFFENSES OF 1986 AND 1988-89 INMATE SURVEY SAMPLES
(OFFICIAL RECORD DATA*)

CONVICTION OFFENSE:	1986 (n)	1988-89 (n)
Burglary	27.2 (85)	21.3 (89)
Robbery	8.0 (25)	8.9 (37)
Homicide	6.8 (21)	5.3 (22)
Assault/Kidnap/Ch.Abuse	15.1 (47)	14.8 (62)
Sexual Assault/Incest	9.6 (30)	10.0 (42)
Theft/Forgery/Fraud	22.1 (69)	18.9 (79)
Drug Offenses	5.4 (17)	11.5 (48)
Other**	5.8 (18)	9.3 (39)
TOTAL	100.0 (312)	100.0 (418)

* Official record data were collected on 418 men in 1989.
** Except for arson, these are less serious crimes.

Looking specifically at the samples of offenders in the 1986 and 1989 self-report studies, Table 4.5 reveals cohort differences in burglary, theft and drug offenses. The 1989 sample contains fewer convicted burglars (21.3% compared to 27.2%) and theft convictions in the study sample decreased slightly by about three percentage points in 1989. Drug convictions more than doubled from 5.4% in 1986 to 11.5% in 1989, reflecting the state's "war on drugs" campaign. The proportion of the sample convicted of "other" (typically less serious) crimes increased by 3.5 percentage points in 1989. We shall discuss these differences more fully when we present the analytic findings.

Even if conviction patterns are similar in the aggregate, comparing the conviction offense of active and inactive respondents might reveal cohort differences that would affect λ estimates. Nearly 30% of each cohort reported no activity in any of the eight crime types studied, a finding consistent with other prisoner self-report studies.[5] Table 4.6 breaks down the conviction crime for active and inactive offenders. Differences across cohorts in the conviction crimes of active and inactive offenders are similar to those discussed in the description of Table 4.5. Among active offenders, there was an increase in drug convictions (from 6.8% to 12.5%) and in offenders convicted of "other" typically less serious offenses (from 3.2% to 6.0%).

TABLE 4.6
MOST SERIOUS CONVICTION OFFENSE:
ACTIVE AND INACTIVE OFFENDERS
(Official Record Data)

CONVICTION OFFENSE	1986		1989*	
	ACTIVES (n)	INACTIVE (n)	ACTIVES (n)	INACTIVES (n)
Burglary	30.1% (66)	20.4% (19)	23.0% (61)	18.4% (28)
Robbery	8.2 (18)	7.5 (7)	10.9 (29)	5.3 (8)
Homicide	5.5 (12)	9.7 (9)	4.2 (11)	7.2 (11)
Assault/Menace/Kidnap	13.7 (30)	18.3 (17)	12.8 (34)	17.8 (27)
Sex Assault	6.4 (14)	17.2 (16)	4.5 (12)	19.7 (30)
Theft/Forgery/Fraud	26.1(57)	12.9 (12)	26.0 (69)	6.6 (10)
Drug Offenses	6.8 (15)	2.2 (2)	12.5 (33)	9.9 (15)
Other**	3.2 (7)	11.8 (11)	6.0 (16)	15.1 (23)
TOTAL	100.0 (219)	100.0 (93)	100.0 (265)	100.0 (152)

* Official record data were collected on 418 men in 1989.
**Except for arson, these are less serious crimes.

Keeping these differences in mind, let us explore self-reported crime activity of the 1986 and 1989 prisoner samples.

PARTICIPATION RATES

Measuring Participation

When the study group consists of prisoners, "participation" in some offense is assured. Although there are cases of false imprisonment (the person did not commit a crime but was nevertheless convicted), most of the offenders in prison cohorts can be assumed to have participated in crime during the measurement period (indeed, 91.2% percent of the men and 93.7% of the women surveyed reported committing some crime that caused the present incarceration).[6]

Participation was measured dichotomously: inmates were asked to respond "Yes" or "No" to the following questions, each of which was followed with the statement "Include the offense you are now serving time for":

BURGLARY — During the street months on the calendar did you do any burglaries? Count any time that you broke into a house or a business in order to take something. Do not include breaking into a motor vehicle.

ROBBERY	During the street months on the calendar did you do any robberies? That is, did you rob any business or persons?
ASSAULT	Even if no one was hurt, during the street months on the calendar did you have a fist fight with someone, threaten someone with a weapon, shoot at someone, try to cut someone, or beat or strangle someone?
THEFT	During the street months on the calendar did you do any theft or boosting worth $300 or more? That is, did you steal from a till or cash register, pick pockets or take something from someone without their knowledge? Include breaking into a car but not vehicle theft.
VEHICLE THEFT	During the street months on the calendar did you steal any cars, trucks or motorcycles?
FORGERY	During the street months on the calendar did you ever forge something, use a stolen or bad credit card, or pass a bad check?
FRAUD	During the street months on the calendar did you ever do any frauds or swindles (illegal cons) of a person, business or the government? Include welfare and food stamp fraud.
DRUGS DEALING	During the street months on the calendar did you ever deal in drugs? That is, did you make, sell, smuggle or move drugs?

1989 Modifications of the 1986 Questionnaire

We modified the 1989 questionnaire in two ways that could affect participation rates: the duration of the observation period was reduced from 24 months to 12 months, and the wording/presentation used to describe three crime types was altered.

Length of the Measurement Period: We were concerned about inmates' abilities to recall events that occurred up to two years before arrest (see Chapter Two for a discussion of recall and memory issues). As discussed in Chapter Two, the methodological issues associated with memory might be especially relevant with prisoner samples (in particular, where memory is adversely affected by substance abuse, anxiety, or guilt). Therefore, the 1989 study was designed to assist accurate recall by reducing the recall period and by having researchers work closely with each respondent to identify their personal street-time period.

Our decision to reduce the length of the measurement period in 1989 from 24 months to 12 months was based on the assumption that remembering two years of activity was subject to more error than remembering events during a one year period since "intermediate memory decays exponentially with time" (Wickelgren, 1970:76). A one year period would account for seasonal

variation in criminal behavior and was a typical time frame used by other researchers (for example, Elliott et al, [1983;1988]).

According to Sudman and Bradburn (1974:69-70),

> A telescoping error occurs when the respondent misremembers the duration of an event. While one might imagine that errors would be randomly distributed around the true duration, the errors are primarily in the direction of remembering an event as having occurred more recently than it did. This is due to the respondent's wish to perform the task required of him. When in doubt, the respondent prefers to give too much information rather than too little....*The effect of telescoping is to increase the total level of events reported* (emphasis added).

The relationship between telescoping and length of the measurement period could be summarized by Sudman and Bradburn (1974:79) somewhat like this: the shorter the measurement period, the more likely telescoping will occur. Thus, the 12-month measurement period used in the 1988-89 survey might result in more telescoping errors.

In addition to the issue of recall and telescoping, Sudman and Bradburn (1974) discuss research findings in which overstatements were a function of ambiguous boundaries: when in doubt, respondents counted things as inside rather than outside the boundaries. Therefore, the method in which the survey was administered to prisoners in 1989 was modified from the 1986 method. As described in Chapter Three, researchers spent between five and ten minutes with each respondent to help with the identification of the measurement period. Attempts were made with each respondent to "flag" the correct time period and create distinct boundaries by identifying birthdays, holidays, changes in employment or residence, and other important events that would discourage what Sudman and Bradburn call "border bias." Additionally, Sudman and Bradburn (1974:88) found that "aided recall" of this sort has a much greater effect if the surveyed item is "threatening... sex, drinking, crime, financial data, or serious illness."

In sum, we redesigned the questionnaire, and in 1989 we asked about their criminal behavior during the *12 month period* preceding arrest for their current crime, and we used "aided recall" techniques to improve the accuracy of the self-report data. While shortening the measurement period might reduce error related to recall, it also meant that we would identify fewer "active" offenders who committed crimes less frequently than once per year.

The box below summarizes the expected effect of measurement-period differences on 1986 and 1989 participation rates.

Expected Measurement Period Effects

1986: More low-rate participants will be "netted" during the 24 month exposure period, so participation rates should be higher compared to 1989.

1989: Fewer low-rate offenders will be "netted" during the 12 month exposure period, so participation rates should be lower compared to 1986. On the other hand, increased telescoping would increase reports of distant crimes and thus increase participation rates.

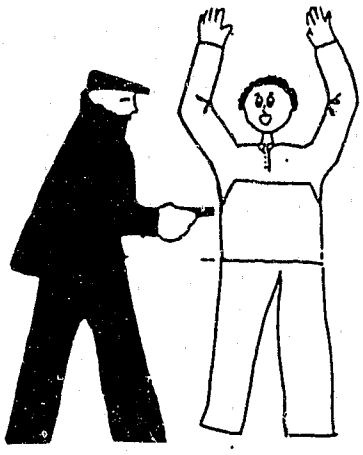
Wording of Crime Descriptions: From our experience with over 300 self-administered inmate questionnaires in 1986, combined with conversations with many respondents, we concluded that three participation questions (burglary, robbery and theft) might lead to measurement error. Burglary and robbery were often considered to be the same crime by respondents which could lead to either double counting of crime participation and frequency or obtaining data about one crime type when the information should have pertained to the other. This possible "blur" between burglary and robbery is important because burglary is a very common crime; the ability to obtain correlates of burglary participation could have significant crime control/prevention potential. Our ability to pursue empirical questions about burglars could be limited by studying a group of "burglars" that might in fact be robbers. Conversely robbery, while less common, is more serious; it is very different from burglary because of its violent component.

To help offenders differentiate between burglary and robbery, cartoon drawings were used with the burglary and robbery crime types:

FIGURE 4.2

THIS IS WHAT WE CALL BURGLARY. THIS INCLUDES BREAKING INTO A HOUSE OR A BUSINESS WITH THE INTENT OF TAKING SOMETHING FROM THAT HOUSE OR BUSINESS. BURGLARY REQUIRES AN UNAUTHORIZED ENTRANCE.

FIGURE 4.3



THIS IS WHAT WE CALL ROBBERY. THIS INCLUDES TAKING SOMETHING FROM SOMEBODY. ROBBERY CAN EITHER BE TAKING SOMETHING DIRECTLY FROM A PERSON WITHOUT USING A WEAPON, OR IT CAN BE A HOLD-UP WHERE A WEAPON IS USED TO THREATEN OR FORCE SOMEONE TO GIVE YOU SOMETHING.

While the cartoon figures proved useful in directing respondents' attention to the difference, the robbery figure may have implied that robbery requires a gun. This mistaken assumption on the part of respondents could result in lower participation rates for robbery.

The theft question also concerned us after interviews with several self-reported thieves indicated they counted stolen items costing less than $5.00, often at theft rates of hundreds per year. Our interest was in serious larcenies; therefore, combining a bottle of aspirin in the same category as a leather coat could lead to inflated aggregate felony crime estimates. Because the 1986 question did not differentiate between serious and less serious thefts, the 1989 participation question was reworded to reflect felony theft (versus misdemeanor theft which, under Colorado statute, is less than $300). The box below illustrates both questions.

We expected these changes in crime definitions to affect reports of crime activity. Hindelang, Hirschi and Weis (1981:40) found that "the level of self-report delinquency within a sample appears to fluctuate broadly as a function of apparently minor changes in item content." Short and Nye (1958) also found responses to be highly contingent on item wording.

FIGURE 4.4

1986: During the STREET MONTHS ON THE CALENDAR did you do any theft or boosting? That is, did you steal from a till or cash register, shop lift, or pick pockets, or take something from someone without their knowledge? (Do not include car theft.)

1989: During the street months on the calendar did you do any theft or boosting worth $300 or more? That is, did you steal from a till or cash register, pick pockets or take something from someone without their knowledge? Include breaking into a car but not vehicle theft.

What Did We Expect To Find?

We expected participation rates to be lower in 1989. If a respondent did any of the eight crimes as frequently as once every two years in 1986, and reported the activity on the questionnaire, then he would be considered an "active" offender for that crime type. Activity during a one-year period was required to log participation in 1989, and respondents who reported no activity in any of the study crimes during the measurement period would be considered "inactive" for our purposes. The mean "street time" period for all respondents was 16.2 months in 1986 compared to 10.7 in 1989, a decrease of 33% in "opportunity time" to report participation in the current study. We therefore expect a reduction in participation rates in 1989.

However, to the extent that telescoping occurred in 1986 because of the longer measurement period, we expected that an increase in telescoping would lead to increased participation rates.

Since the questions pertaining to burglary, robbery and theft were modified between the 1986 and 1989 studies, differences found for these crimes will be confounded with effects produced by changing the length of the measurement period. We would expect lower participation rates for the 1989 sample since the questionnaire stated stolen items must be worth "$300 or more." Burglary and robbery rates, too, could be lower if our assumption holds true (that offenders confused the two crimes and sometimes double-counted crimes by marking *both* crime categories instead of one). However, since the robbery cartoon implied that robbers carry guns, our 1989 participation rates might be lower than those obtained from respondents who had not seen the cartoon.

Because of the large sample sizes examined with chi-square analyses (presented below) the probability level for statistical significance was set at .01.

Findings: Participation Rates

Overall participation rates declined in 1989. As indicated in Table 4.7, for all study crimes (except for nonsignificant changes in robbery and assault),[7] differences in participation rates in the 1986 and 1989 samples are in the expected direction. Although differences were sometimes small, the overall percentage of active offenders decreased from 70.0% in 1986 to 65.7% in 1989. Further, when we exclude the high-activity crime of drugs, the 1989 overall participation rate drops considerably, from 65.7% to 56.7%, reflecting the increase in drug activity among respondents in the 1989 sample.

Overall participation rates declined in 1989. When we exclude the high-activity crime of drugs, the 1989 overall participation rate drops considerably, from 65.7% to 56.7%, reflecting the increase in the drug activity among respondents in the 1989 sample.

The differences in participation for burglary and theft are statistically significant. Enhancing the definition of burglary and changing the definition of theft to exclude petty items could contribute to the lower 1989 burglary and theft participation rates. Interestingly, the proportion of the 1989 cohort that was convicted of burglary declined by nearly six percent from the same proportion (Table 4.5), but we cannot infer that changes in conviction rates is related to self-reported offending rates.

Robbery participation rates increased--though not significantly--from 9.9% in 1986 to 11.7% in 1989 despite our concern that some inmates might be dissuaded from reporting robberies they committed by the cartoon of the robber with a handgun. However, there may have been a real increase in robbery offending, so we can only speculate about the effect of the robber cartoon. Robbery conviction rates in the 1989 sample increased slightly, in fact, from 8.0% to 8.9%.

TABLE 4.7
PARTICIPATION RATES 1986-1989

	1989 (n)	1986 (n)	CHI-SQUARE	p
Burglary	22.6% (197)	30.4% (95)	7.41	.007
Robbery	11.7 (102)	9.9 (31)	.74	.391
Assault	27.8 (242)	24.5 (76)	1.10	.293
Theft	19.9 (173)	33.9 (106)	23.91	.001
MVT	11.2 (97)	13.8 (43)	1.50	.219
Forgery	13.9 (121)	19.2 (60)	4.45	.035
Fraud	7.2 (63)	10.3 (32)	2.84	.092
Drug Dealing	30.6 (266)	32.7 (102)	.387	.534
TOTAL PARTICIPATION	65.7 (572)	70.0 (219)	2.87	.089
PARTICIPATION EXCLUDING SELF-REPORTED DRUG OFFENDERS	56.7 (494)	65.2 (204)	6.91	.009

Note: X^2 is corrected for continuity. Participation categories are not mutually exclusive.

Overall, then, participation rates changed as expected, with lower crime participation reported by the 1989 sample. Furthermore, the fact that drug dealing, assault, burglary and theft ranked as crimes with the greatest rates of participation compared to the other four crime types in both years could be considered another indication of the reliability of participation rates across studies.

TABLE 4.8
1986-1989 PARTICIPATION RATES BY RACE

	BLACKS		WHITES		HISPANICS	
	1986	1989	1986	1989	1986	1989
Burglary	27.7%	20.4%	26.7%	22.8%	35.7%	24.4%
Robbery	12.7	18.1	6.7	10.4	17.1	8.0
Assault	25.4	29.2	27.5	24.8	21.4	29.1
Theft	35.4	17.5	32.0	21.1	35.7	19.8
MVT	14.1	10.8	12.1	12.1	18.6	10.1
Forgery	18.5	12.8	24.7	17.3	7.1	7.5
Fraud	13.8	6.2	9.4	9.2	7.1	4.5
Drug Dealing	32.3	36.2	36.7	29.8	22.9	27.2
% OF ACTIVE SAMPLE	20.8	25.9	48.1	47.4	22.4	23.2

The cohorts were disaggregated by race to explore possible variation. For most comparisons, the self-reported participation rate differences were in the expected direction (participation rates were lower in 1989). An important exception is robbery where participation increased between 1986 and 1989 by about 50% for both blacks and whites and decreased by more than half for Hispanics.

In sum, these findings tend to support our expectations that participation rates would be somewhat lower in the present study given the shorter measurement period. Participation was significantly lower for theft and burglary, corresponding with changes in conviction and imprisonment patterns toward exogenously mandated penalties, along with our attempts to more precisely define these crimes. However, we found differences by race, with higher participation rates than expected in the recent study for blacks, whites and hispanics for certain crime types (the number of cases in the non-white groups is small, so this finding must be viewed with caution). We now turn our attention to the frequency of criminal activity by offenders who reported participating in crime during the measurement period.

Participation was significantly lower for theft and burglary, corresponding with changes in the conviction and imprisonment patterns toward exogenously mandated penalties, along with our attempts to more precisely define these crimes.

FREQUENCY RATES

What Did We Expect To Find?

Three factors might account for differences between the 1986 and 1989 frequency rates: Changes in measurement, changes in processing offenders through the criminal justice system, or changes in the actual offending behavior of the offender population. Each of these is discussed below.

Changes in Measurement: Three modifications to the prisoner questionnaire resulted in differences in the way we measured criminal behavior in 1986 and in 1989. First, measurement periods of different lengths result in variations in "exposure time" for criminal behaviors. In particular, the shorter measurement period in 1989 could increase estimates of self-reported individual offending frequencies independently of any changes in actual offending behavior since lower rate offenders are less likely to be detected as active during shorter observation periods. Thus, our 1989 sample probably contains fewer low-rate offenders, and even if crime frequencies of active offenders among inmates were the same for the 1986 and 1989 samples, we would expect the crime frequencies to be generally higher for this group.

Additionally, we reduced the length of the measurement period to assist recall. If a shorter measurement period increased telescoping, which potentially inflates reports of crime activity, this would be reflected in higher participation rates.

However, another modification might lead to lower crime rate estimates. The wording of "theft" was modified to target felony crimes. We found significant differences in theft participation rates between the two studies that suggest changing the definition of this crime might change the composition of the 1989 sample by excluding petty but very high-rate thieves. Consequently, theft λ estimates might decline in 1989, and to the extent that these now-excluded thieves committed other types of crimes as well, overall λ rates would decline.

The wording of "theft" was modified to target felony crimes, consequently, theft λ estimates might decline in 1989, and to the extent that these non-excluded thieves committed other types of crimes as well, overall λ rates would decline.

Finally, we changes the questions about crime frequency. The Second Rand Survey questionnaire (Peterson et al. 1982), which was used in the 1986 Colorado Replication Project, was criticized for the design of questions intended to determine the frequency with which offenders committed crimes (Cohen, 1983; Visher, 1986). The previous survey asked respondents who committed ten or fewer offenses of a given crime (referred to as "low frequency offenders") to report the exact number of times they did the crime. Those who reported more than ten offenses (referred

to as "high frequency offenders") proceeded through a question sequence that asked them to choose the time interval within a typical month *(every day or almost every day/several times a week/every week or almost every week/less than every week)* that best fit their offending rates, and report the "usual" frequency for that interval. Visher (1986:177) raised concerns about whether this question sequence might be a "difficult cognitive task." Our experience fielding questions from inmates during the 1986 survey in Colorado confirmed this suspicion (Mande and English, 1988).[8] We modified the 1989 questionnaire to ask directly for the *number of offenses during a typical month* when a participant was actively committing that type of crime.[9] Using this month-long interval (except for the week-long interval used for drug dealing), all respondents were asked the same set of questions, thus eliminating the artificial demarcation between low and high rate offenders. We would expect this relatively uncomplicated question sequence to affect higher rate responses, and hence the 1989 lambda estimates (λ) would be lower compared to 1986.

Changes in the Criminal Justice System: Changes in Colorado's criminal justice system could increase or decrease aggregate crime rate estimates of incoming prisoners. Significant changes in sentencing legislation enacted by the 1985 General Assembly could have resulted in altering the composition of the incoming prison population. This legislation affected all crimes committed after July 1, 1985: presumptive sentence ranges for most felony crimes were doubled at the top end, and the definition of aggravating circumstances was expanded to included a comprehensive list of factors used by all other states in the country. As a result of this sentencing legislation, the average length of stay nearly tripled, from 22 months to nearly 60 months (Mande and Pullen, 1991).

The size of the intake population increased as well, from 2,119 in fiscal year 1985-86 to 2,759 in 1988-89 (Colorado Department of Corrections, 1986; 1989). This 23% increase is reflected in Table 4.9. which presents the probability of incarceration, given arrest,[10] in Colorado for the two study years.

TABLE 4.9
PROBABILITY OF INCARCERATION FOR CERTAIN ARREST CRIMES, 1986 AND 1989

CRIME:	1986	1989	Difference
Burglary	.052	.072	+26%
Theft	.006	.007	+15%
Drugs (possession, sale)	.016	.047	+66%
Felony Assault	.024	.019	-21%
Rape	.184	.312	+41%
Robbery/Agg. Robbery	.144	.165	+13%

Note: Arrest and incarceration data were obtained from the Colorado Department of Corrections and the Colorado Bureau of Investigation, annual reports for fiscal years 1985-86 and 1988-89.

For five of the six crime types listed in Table 4.9, offenders were clearly more likely to receive prison sentences. The probability of incarceration given a drug arrest increased by 66% between 1986 and 1989, reflecting the state's "war on drugs" campaign. Incarceration probabilities also increased for burglary, theft, rape and robbery (26%, 15%, 41% and 13%, respectively). The only offense type for which incarceration probabilities decreased is assault, and this is consistent with data collected from district court files and presented earlier which showed violent conviction offenses dropping by nearly 19% between 1986 and 1989 (see Table 4.5). Policies and practices which increase or decrease the probability of incarceration will likely result in changes in the composition of the incoming prisoner population.

The probability of incarceration given arrest increased by 66% between 1986 and 1989. Incarceration probabilities also increased for burglary, theft, rape and robbery (26%, 15%, 41% and 13%, respectively).

Changes in the Behavior of the General Offender Population: If we found differences in λ that could not be explained by changes in measurement or in criminal justice system processing, we would then suspect that the offender population, as reflected by incoming prisoners, was becoming more or less serious. To test this hypothesis directly would require two identical subsamples, one drawn in 1986 and one drawn in 1989, with identical measurement periods and the same incarceration rates. The different measurement periods in 1986 and 1989, however, ensure differences in the samples we have. If we knew, for the 1986 cohort, *when* criminal behaviors occurred during the measurement period, we could reconstruct the sample as if it were based on a 12 month measurement period, but this information is not available.

Findings: Individual Frequency Rates

Instead of obtaining higher annualized offending rates (λ) in 1989 than in 1986, by virtue of the shortened measurement period, we found changes in the opposite direction for half of the study crimes: burglary, robbery, theft, motor vehicle theft, and drugs as well as for the overall crime frequency rates. For these crime categories, λ decreased unexpectedly.

Instead of obtaining higher annualized offending rates (λ) in 1989 than in 1986, by virtue of the shortened measurement period, we found changes in the opposite direction for half of the study crimes.

To more precisely discuss differences, results from the Kolmogorov-Smirnov test of cumulative distributions are presented in Table

4.10. The K-S test found significant differences ($p \leq .10$) between the 1986 and the 1989 cohorts for all crime types, but the differences were sometimes in different directions (see Chapter Three for a discussion of significance levels). For both study samples, estimates of lambda at the 25th, 50th, 75th and 90th percentiles are presented in Table 4.11. Except for assault and fraud, lambda values at the 90th percentile are notably higher for the 1986 sample compared to the 1989 sample. Rates for the 1986 group at the 75th percentiles are also higher except for robbery, assault and fraud. When the 1986 estimates are adjusted for outliers by excluding the two highest λ estimates for each crime type, the differences in crime rates presented above persist (data not presented).

TABLE 4.10
DIFFERENCES IN CUMULATIVE OFFENSE DISTRIBUTIONS: 1986-1989

	1989 (n)	1986 (n)	K-S (z)	Maximum Difference	p
Burglary	181	96	1.29	.163	.072
Robbery	90	53	1.85	-.321	.002
Assault	216	77	1.25	-.299	.001
Theft	162	105	1.87	.234	.002
MVT	89	44	1.35	-.250	.050
Forgery	113	61	1.25	.197	.090
Fraud	58	30	1.29	-.289	.072
Drug Dealing	233	100	1.93	-.233	.001
TOTAL λ	564	219	1.64	.132	.008
TOTAL λ, EXCLUDING DRUG DEALING	494	204	2.29	.191	.001

Note: The z score determines if the distributions are too far apart at any point, suggesting the samples come from different populations (Siegel and Castellan, 1988).

Following Fox and Tracy (1988:262), we graphed (Figures 4.4 to 4.12), for each of the crime groups in the 1986 and 1989 studies, "the cumulative percentage of offenses committed by the cumulative percentages of a cohort," a procedure which "uses the offense data to the fullest."

> A perfectly even distribution, one in which all cohort members commit the same number of offenses, would yield a diagonal straight line. The more skewed the distribution of offense share, the more bowed or convex the cumulative offense curve (Fox and Tracy, 1988:262).

TABLE 4.11
ESTIMATES OF LAMBDA
USING OBSERVATION PERIODS OF DIFFERENT LENGTHS
(1986: 2 Years; 1989: 1 Year)

	1986	1989
Burglary (n)	(94)	(181)
25th Percentile	1.7	1.3
Median	5.2	6.0
75th Percentile	107.4	36.0
90th Percentile	258.0	117.8
Mean*	105.3	68.6
Robbery (n)	(52)	(90)
25th Percentile	.8	1.0
Median	1.7	2.7
75th Percentile	6.0	10.5
90th Percentile	93.8	28.8
Mean	50.1	13.7
Assault (n)	(77)	(216)
25th Percentile	1.0	1.0
Median	2.0	2.5
75th Percentile	6.0	7.6
90th Percentile	10.0	24.7
Mean	4.1	18.4
Theft (n)	(105)	(162)
25th Percentile	2.2	2.4
Median	6.0	11.1
75th Percentile	258.0	60.0
90th Percentile	840.9	160.8
Mean	240.4	76.8
MVT (n)	(44)	(89)
25th Percentile	1.0	1.1
Median	3.3	2.0
75th Percentile	21.0	13.2
90th Percentile	206.4	60.0
Mean	54.4	23.7
Forgery (n)	(61)	(113)
25th Percentile	1.9	2.0
Median	3.8	8.0
75th Percentile	154.8	37.2
90th Percentile	516.0	246.6
Mean	213.4	239.8
Fraud (n)	(30)	(58)
25th Percentile	1.6	4.0
Median	3.5	12.5
75th Percentile	43.8	63.0
90th Percentile	206.4	246.0
Mean	80.9	271.7
Drug Dealing (n)	(95)	(233)
25th Percentile	10.0	103.2
Median	361.2	309.6
75th Percentile	2528.4	1477.6
90th Percentile	5418.0	5160.0
Mean	1587.5	2156.8

Note: Measurement periods of different durations resulted in the range of λ estimates differing between the 1986 and 1989 study cohorts. In 1986, the lowest annualized crime rate was .5 (one crime during a two-year measurement period) and in 1989 the lowest rate was 1.0 (one crime during a one-year measurement period). This caveat does not apply to drug frequencies, which were measured using weekly increments.

*The differences between the 1986 and 1989 mean λ values can be attributed to reduced λ's at the high end of the 1989 distributions. This phenomenon illustrates the extreme sensitivity of the mean to outliers in a skewed distribution.

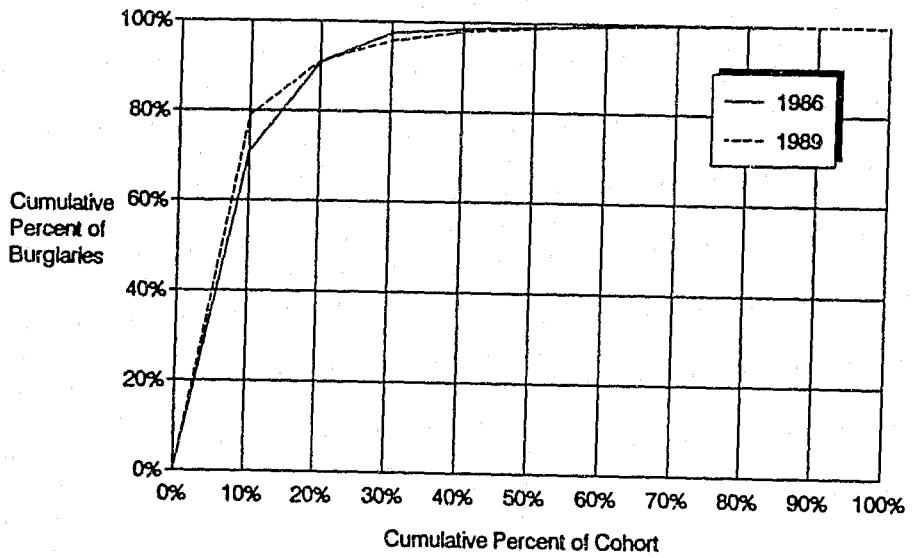
The λ rates for burglary, theft and forgery are more skewed in 1989 compared to 1986; 1989 rates were higher for robbery, assault, motor vehicle theft, fraud and drugs. In other words, the 1986 rates are, in general, more skewed; the lines on the graphs are more convex. For example, burglary rates ($p = .072$), presented in Figure 4.4, reflect higher rate activity by the most active 10% of the 1989 cohort: 10% of the 1989 prisoners were responsible for 80% of the burglary reports compared to 10% of the 1986 prisoners who reported "only" 75% of the burglaries, indicating that the differences between the distributions is at the point of high-rate activity. The cumulate offense curve for 1986 robbers (Figure 4.5) is considerably more convex compared to the 1989 group ($p = .001$); ten percent of the 1986 active robbers accounted for over 95% of the robberies while 10% of the 1989 prisoners accounted for 68% of the robberies reported by the sample. The cumulative distributions for the two active theft cohorts (Figure 5.4), depicting differences in theft λ estimates, reveal a more convex curve for the 1989 theft distribution: 10% of the 1989 cohort reported 71% of the thefts while 10% of the 1986 cohort accounted for 63% of the thefts.

Ten percent of the 1989 prisoners were responsible for 80% of the burglary reports compared to 10% of the 1986 prisoners who reported "only" 75% of the burglaries, indicating that the differences between the distributions is at the point of high rate activity.

FIGURE 4.4

Cumulative Offense Distributions: 1986 and 1989*

BURGLARY



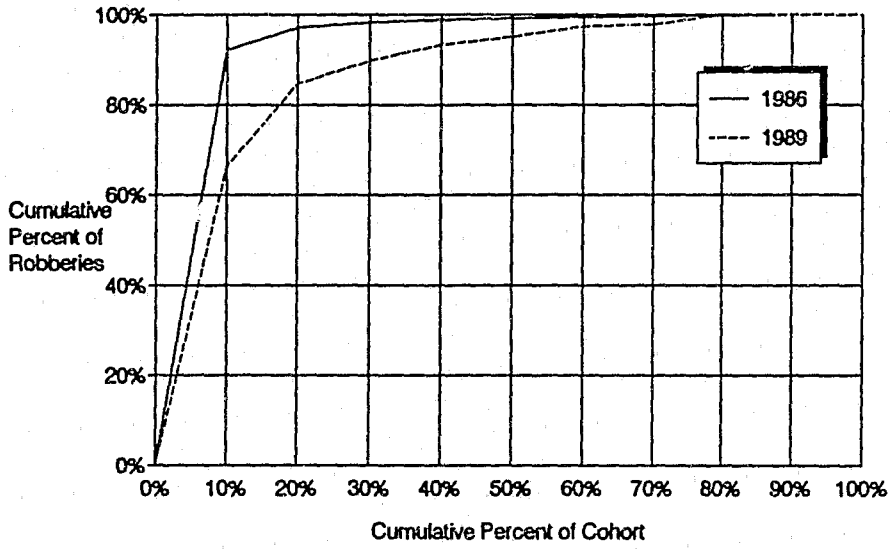
*These distributions were different at the .10 level of statistical probability.

1986 n= 96
1989 n= 181

FIGURE 4.5

Cumulative Offense Distributions: 1986 and 1989*

ROBBERY



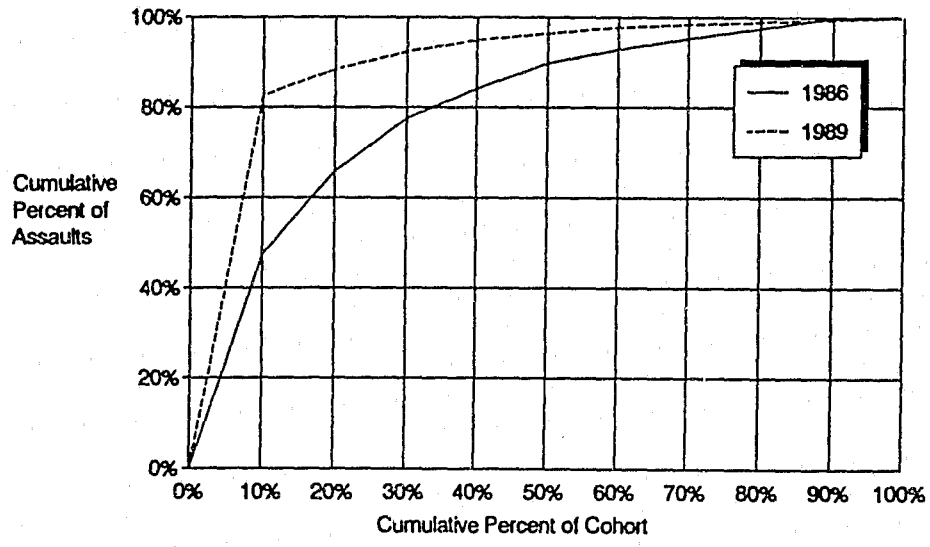
*These distributions were different at the .10 level of statistical probability.

1986 n=52
1989 n=90

FIGURE 4.6

Cumulative Offense Distributions 1986 and 1989*

ASSAULT



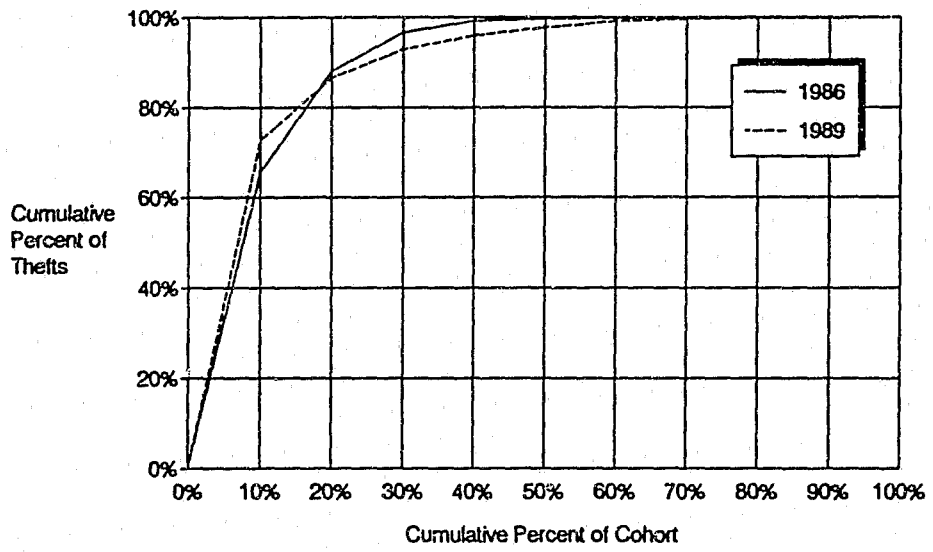
*These distributions were different at the .10 level of statistical probability.

1986 n= 77
1989 n= 216

FIGURE 4.7

Cumulative Offense Distributions: 1986 and 1989*

THEFT



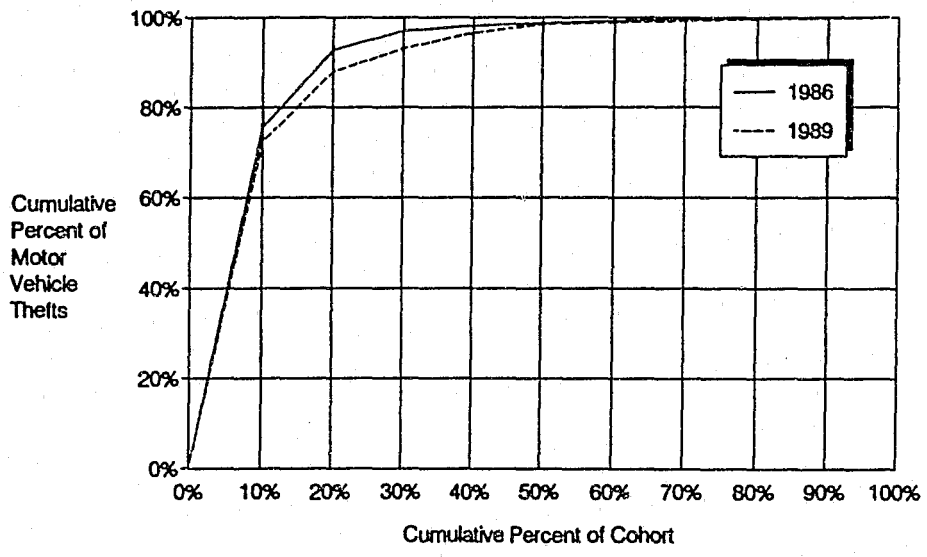
*These distributions were different at the .10 level of statistical probability.

1986 n= 105
1989 n= 162

FIGURE 4.8

Cumulative Offense Distributions: 1986 and 1989*

MOTOR VEHICLE THEFT



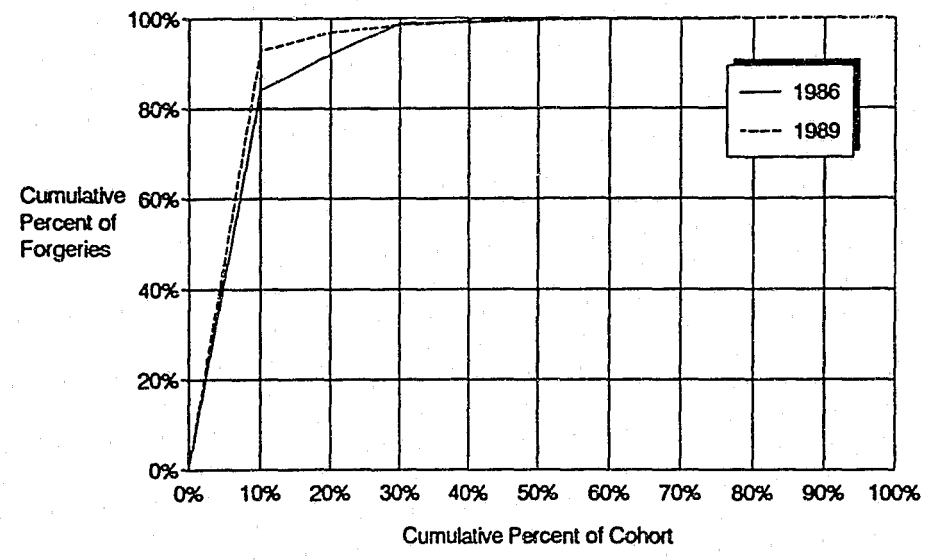
*These distributions were different at the .10 level of statistical probability.

1986 n= 44
1989 n= 89

FIGURE 4.9

Cumulative Offense Distributions: 1986 and 1989*

FORGERY



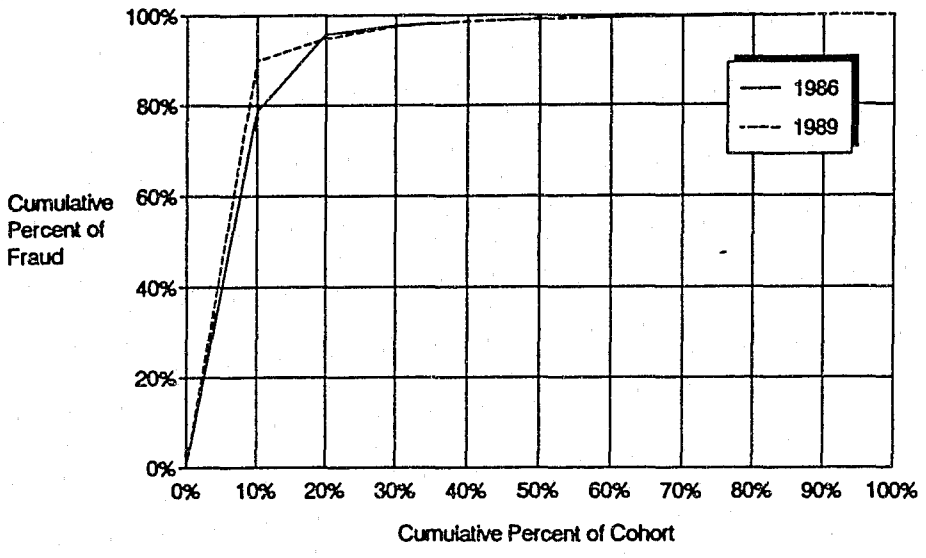
*These distributions were different at the .10 level of statistical probability.

1986 n= 61
1989 n= 113

FIGURE 4.10

Cumulative Offense Distributions: 1986 and 1989*

FRAUD



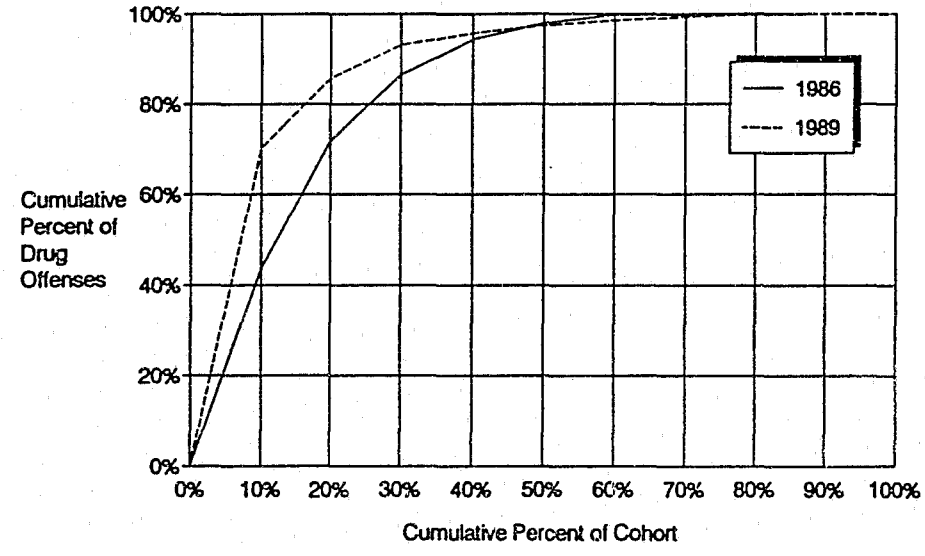
*These distributions were different at the .10 level of statistical probability.

1986 n= 30
1989 n= 58

FIGURE 4.11

Cumulative Offense Distributions: 1986 and 1989*

DRUG DEALING



*These distributions were different at the .10 level of statistical probability.

1986 n= 94
1989 n= 233

Exploring the Differences Between λ Obtained in 1986 and 1989

Measurement Considerations:

The Duration of the Measurement Period. Since higher crime rates were expected but not obtained for six crime types in 1989, important factors pertaining to the measurement period remain. For example, comparing data from measurement periods of different lengths results in varying the *range of values at the low end* of the distribution. Specifically, since the crime rate is annualized, the lowest λ estimate a 1986 respondent could have was .5 per year (for those offenders who reported one crime during the two year measurement period). The lowest λ estimate a 1989 respondent could have was 1.0 (one crime during the one year measurement period). Data were not available on *when*, during the 24 month measurement period, offenders in the 1986 study committed crimes. However, in order to make the 1986 data more directly comparable to the 1989 data, cases in the 1986 study with a λ of less than one were omitted, and these data are presented in Table 4.12.

TABLE 4.12
COMPARING λ AFTER OMITTING 1986 CASES WITH λ RATES OF LESS THAN 1

	1986, ALL active cases		1986, excluding $\lambda \leq 1$		1989, all active cases	
CRIME TYPE	Mean	Median	Mean	Median	Mean	Median
Burglary	103.1	5.2	119.2	6.5	68.6	6.0
Robbery	50.1	1.7	73.4	3.1	13.7	2.7
Assault	4.1	2.0	5.6	2.0	18.4	2.5
Theft	240.4	6.0	277.3	8.7	76.8	11.1
MVT	54.4	3.3	72.3	5.1	23.7	2.0
Forgery	213.4	3.8	240.9	5.5	239.8	8.0
Fraud	80.9	3.5	107.4	4.2	271.7	12.5
Drug Dealing	1572.6	361.2	1572.6	361.2	2156.0	309.6

This adjustment makes the groups more comparable by eliminating very low-rate respondents from the 1986 cohort who are unlikely to be included in a 12 month measurement period. The median is more sensitive than the mean to this adjustment since it is more reflective of activity at the lower end of a distribution that is skewed to the right. This adjustment, however, does not provide an explanation about why the crime rates are lower in 1989; the reduction in λ rates between the 1986

and 1989 is even more pronounced after omitting low rate respondents in the 1986 sample. The adjustment, however, reflects the substantial impact that measurement factors can have on the λ estimates obtained from this type of research.

Telescoping: Two factors introduced in the 1989 survey to improve crime rate measurement might also have affected the rates: the shorter recall period may have increased telescoping (and increased reports of crimes), and the techniques researchers used to adequately "bound" the measurement period for each respondent. Unfortunately, data are not available that would allow us to test directly the impact of bounding and telescoping on the different λ estimates.

Determining Crimes Committed: We specifically compared the λ estimates in 1986 and 1989 for low and high frequency offenders. For the 1986 group, we distinguished between offenders answering the 10 or fewer crimes question and those answering the more complex sequence of questions for 11 or more crimes did, calculating separate means and medians for each group. For the 1989 sample, in which all respondents followed the same set of questions, we divided the men into two groups: (1) offenders who reported fewer than 11 crimes, and (2) offenders who reported eleven or more crimes.

TABLE 4.13
The Impact of Changing the Question Sequence: Comparing 1986 and 1989 Offenders Who Reported ≤10 Crimes With Those Who Committed >10 Crimes

	LOW FREQUENCY: ≤ 10 CRIMES						HIGH FREQUENCY: >10 CRIMES					
	1986			1989			1986			1989		
CRIME	Mean	Median	n	Mean	Median	n	Mean	Median	n	Mean	Median	n
Burglary	3.6	2.6	60	3.0	2.0	110	331.5	206.4	29	170.1	60	71
Robbery	2.1	1.3	40	2.8	2.0	68	314.2	258.0	8	47.5	24.0	22
Theft	3.1	2.4	59	3.5	2.4	81	588.6	361.2	41	150.0	60.0	81
MVT	2.6	2.1	31	2.5	2.0	63	272.7	206.0	7	75.2	34.0	26
Forgery	2.7	2.7	35	3.5	2.0	67	586.4	206.4	22	583.9	47.5	46
Fraud	2.7	2.0	19	3.6	3.0	24	331.7	206.7	7	111*	49.0	22
Drug Dealing	5.7	6.0	25	5.3	4.3	15	2124	1083	71	1528*	361.2	214

*One Fraud case with a λ estimate over 12,000 and two drug cases with λ estimates over 50,000 were excluded from this table.
Note: The question sequence for assault differed from the other crime types and so is excluded from this analysis.

The results in Table 4.13 suggest that the change in question format had very little impact on the low frequency crime rate estimates: differences were not systematic in direction (four crime types increased and three decreased), and all differences were small in magnitude. The differences between 1986 and 1989 inmates are located primarily among high frequency offenders. For this group, all crime types had considerably lower mean and median estimates using the 1989 questionnaire compared to 1986 questionnaire. Means for high frequency offenders in 1989 are one-fourth to one-half the size of those obtained for 1986 high frequency offenders, and the difference between medians is sometimes greater. Crime rates obtained using the 1986 version of the self-administered questionnaire may be much higher as a function of the instrument design. This finding concurs with the work of Horney and Marshall (1992) who found, using interviews and a simplified instrument design to collect crime counts, that λ estimates were lower when compared to those obtained with the Second Rand Survey questionnaire.[11]

The change in question format had an impact on high frequency λ estimates. For the group reporting more than ten crimes of a given type, all crime types had considerably lower mean and median estimates using the 1989 questionnaire.

It is noteworthy that the proportion of high-frequency offenders (offenders committing more than 10 offenses during the measurement period) was greater in 1989 compared to 1986, as shown in Table 4.14, an expected finding given the shorter measurement period used in 1989. Given this difference, it is especially interesting that the 1989 λ estimates were, overall, lower than the 1986 rates.

TABLE 4.14
Proportion of High Frequency ($\lambda > 10$) Offenders: 1986 and 1989

Crime Type	1986	1989
Burglary	33%	35%
Robbery	17	24
Theft	41	50
Motor Vehicle Theft	18	29
Forgery	47	29
Fraud	37	67
Drug Dealing	74	94

Note: Numbers of cases in the cells are located in Table 4.13.

Cohort Differences: The unexpected variation in λ estimates obtained in 1986 and 1989 could be the result of cohort differences. In fact, we established earlier in this chapter (Tables 4.1 to 4.4) that offenders sentenced to prison in 1986 and 1989 differed on some important variables. The following list summarizes the differences between the samples of prison-bound offenders.

The 1989 sample had:

- more single (never married) men
- more nonwhites
- fewer men with juvenile conviction records
- fewer men with prior property convictions
- more men with a history of violent criminal behavior
- more aggressive but less deadly behavior during the current crime
- more men with alcohol and drug problems recorded in their court file

Further, we know from Table 4.9 that the probability of incarceration for drug offenses increased by 66% between 1986 and 1989. From Table 4.5, we can see that the proportion of active respondents with current drug convictions in the 1989 cohort is nearly double that of the 1986 cohort (12.5% compared to 6.8%). And from Table 4.13, we know that the proportion of offenders reporting more than 10 drug deals increased from 74% to 94%. These findings indicate that the 1989 sample contains a higher proportion of active drug dealers, and more of these offenders were operating at higher levels of activity compared to the 1986 cohort.

The 1989 sample contains a higher proportion of active drug dealers, and more of these offenders were operating at higher levels of activity compared to the 1986 cohort.

Thus, the cohorts differed in several important respects. How might these group differences affect the self-reported λ estimates? Let us look more closely at two self-report subgroups: drug dealers, which likely reflect changes in criminal justice processing decisions and thieves, for which the differences are likely the result of measurement modifications.

Drug Dealers: The probability of incarceration following an arrest for a drug charge increased 66% between 1985 and 1989 (Table 4.9). Given the national emphasis on drug enforcement, and the considerable attention to drug offenders by law enforcement agencies in Colorado (Pullen and Mande, 1991), it is not surprising that the proportion of convicted drug offenders in the self-report samples doubled, increasing from 5.4% to 11.5% (Table 4.19). This increase in drug convictions is consistent with other analyses conducted by the Division of Criminal Justice (Mande and Platter, 1991). Increased numbers of drug offenders entering prison may be a factor contributing to cohort changes accompanying the lower self-reported λ estimates in 1989. Figure 4.11 compares 1986 and 1989 self-reported drug dealers.

The proportion of non-whites among active drug dealers increased by more than 20 percentage points between 1986 and 1989. Active drug dealers in 1989 were more likely to have been convicted and incarcerated for a drug offense (28.0% had drug convictions in 1989 compared to 14.6% in 1986).

The 1989 active drug respondents were less likely to have been convicted of burglary and assault, and slightly less likely to be convicted of theft, forgery or fraud (this change is likely related to the different theft measure used in 1989). Importantly, a larger proportion of the more recent group of drug dealers had been convicted of a violent crime within the last five years, further evidence that the 1989 cohort was a more aggressive group. Further, in 1989 47.6% of the drug dealers had a prior conviction for burglary, robbery, theft or motor vehicle theft, compared to 43.7% in 1986. Thus, the 1989 group appears to have slightly more serious criminal histories. Differences in Behavior Severity Scores similarly indicate that the proportion of moderately aggressive dealers increased three-fold in the 1989 subsample, and this group (Behavior Severity categories 2, 3 and 4) reported lower λ estimates, as measured by the median, compared to the other Severity categories.

A larger proportion of the more recent group of drug dealers had been convicted of a violent crime within the last five years, further evidence that the 1989 cohort was a more aggressive group. Nearly 30% of the 1989 drug dealers reported activity during the measurement period in only drug offenses compared to 15.6% in 1986.

The seriousness dimension measured by criminal history variables is offset somewhat by a self-reported seriousness dimension: crime variety. Nearly 30% of the 1989 drug dealers reported activity in *only* drug offenses compared to 15.6% in 1986. Indeed, over half of the 1989 dealers reported participation in two or fewer crime types compared to less than one-third in 1986. These differences at the low end of the variety range are, of course, adjusted at the high end by greater variety of offending by 1986 drug dealers: nearly one-third of the 1986 dealers reported five or more different types of criminal activity compared to 12.8% of 1989 dealers.

Thieves: Theft rates decreased significantly between 1986 and 1989 (30% to 18.5%, respectively), presumably because the theft definition was changed to emphasize felony behavior. Since theft is a very common offense, changing the definition of theft in the 1989 questionnaire excluded offenders committing less serious thefts, but perhaps at much higher rates.
Indeed, there were some differences in the groups of thieves in the two study years, especially in crime variety, but the differences in ethnicity, current conviction crime, criminal history and marital status paralleled those found in the larger cohort (Table 4.15) presents current conviction crime data, as an example).

TABLE 4.15
CURRENT CONVICTION CRIME: ACTIVE THIEVES, 1986 AND 1989

CONVICTION CRIME:	1986	1989
Burglary	32.4%	26.0%
Robbery	8.6	12.3
Assault	10.5	6.8
Sexual Assault	3.8	1.4
Theft/Forgery/Fraud	32.4	46.6
Drug Dealing	2.9	4.1
Other	4.8	2.7

TABLE 4.16
BEHAVIOR DURING CURRENT CRIME: 1986 AND 1989 ACTIVE THIEVES

DESCRIPTION OF OFFENSE: BEHAVIOR SEVERITY		1986 (n=102)	1989 (n=162)
1	No Aggression	66.8%	67.8%
2	Verbal Aggression, Threats	2.9	8.5
3	Non-Directed Physical Aggression	3.9	3.4
4	No Weapon, Minor Injury	5.9	13.5
5	Negligent Death	0	0
6	Major Emotional/Or Physical Injury, No Weapon	0	1.7
7	Death, Involuntary	0	0
8	Life Threatening Force	18.5	5.1
9	Murder, No Aggravating Factors	1.9	0
10	Murder, Torture	0	0

The behavior of the offender during the crime leading to the current incarceration, while still reflective of changes in the overall samples, varies in important ways between the two groups of thieves, as depicted in Table 4.16. These data, obtained from descriptions of the current crime contained in the prison file, suggest that the 1989 active thieves exhibited more threatening, aggressive behavior compared to outright deadly behavior: 25.4% of the 1989 thieves had "Behavior

Severity Scores" of 2, 3 or 4 compared to 12.7 % of the 1989 group, while over 20% of the 1986 thieves and 5% of the 1989 thieves were convicted of crimes involving murder or life threatening behavior.

1989 active thieves exhibited more threatening, aggressive behavior but less deadly behavior. Over 20% of the 1986 thieves and 5% of the 1989 thieves were convicted of crimes involving murder or life threatening behavior.

A closer look at the active offenders with particular Behavior Severity Scores reveals that, in general, respondents with moderate aggression scores tended to have lower total λ estimates than did the group displaying no aggression, with the exception of the 1989 non-thief actives. The involuntary death and life-threatening force subgroups (scores 5 through 8) had lower crime rates still in 1989. Aside from much higher median rates in 1986, the pattern across severity scores also differs considerably for the 1986 respondents with the highest median rates observed for the most deadly active offenders.

TABLE 4.17
MEDIAN λ ESTIMATES BY BEHAVIOR SEVERITY DURING THE CURRENT OFFENSE

	TOTAL λ MEDIAN			
BEHAVIOR SEVERITY SCORE	1986 Median (n) (actives)	1989 Median (n) (actives)	1989 Median (n) (active thieves)	1989 Median (n) (active non-thieves)
1 (No Aggression)	215.3 (68)	80.4 (109)	72.0 (97)	96.2 (40)
2-4 (Moderate Aggression)	171.1 (12)	10.5 (41)	7.0 (51)	224.0 (15)
5-8 (Life Threatening Force, Death)	367.1 (21)	4.0 (4)	3.0 (50)	158.2 (4)

The notion that aggressive offenders may have lower λ estimates is consistent with work of Chaiken and Chaiken (1982) and Mande and English (1988) who found average λ rates to be much lower for violent crimes (assault and robbery) compared to rates for property crimes. Indeed, as indicated in Table 4.18, a comparison of λ estimates of 1989 burglars and fighters shows the latter group (those active in assault) to have consistently lower crime rates, across all crime categories except burglary, as reflected by the λ medians.

Thus, we have evidence that differences between cohorts on aggressive dimensions may lead to lower offending rates and, as noted in Table 4.14, the probability of incarceration for rape and

robbery increased by 41% and 13%, respectively, during the comparison periods. Examining the active respondents who had Behavior Severity Scores of 2, 3 or 4 shows an important increase in 1989 of moderately aggressive offenders, and this group--while engaging in more serious behavior compared to non-aggressive prisoners--reported committing fewer crimes. This change in

TABLE 4.18
Median Lambda Estimates for 1989 Burglars and Fighters

	BURGLARY		ASSAULT	
CRIME TYPE	MEDIAN	n	MEDIAN	n
Burglary	6.0	181	14.1	56
Robbery	5.0	31	4.0	40
Assault	6.0	56	2.5	216
Theft	23.2	84	18.0	57
MVT	4.0	49	4.0	42
Forgery	11.4	34	6.5	35
Fraud	21.6	15	14.0	19
TOTAL	64.0	181	33.4	216

the overall cohort and, in particular, between the 1986 and 1989 theft groups (a subgroup that changed by virtue of measurement modifications) could contribute to lower 1989 crime rates. The contribution of the thieves to the groups' overall crime rates will be discussed momentarily.

We have evidence that the increasing incarceration of drug offenders (a criminal justice system change), and the decrease in thieves (a measurement artifact), altered the composition of active offenders between 1986 and 1989.

Summary: Thus, we have evidence that the increasing incarceration of drug offenders (a criminal justice system change), and the decrease in thieves (a measurement artifact), altered the composition of active offenders between 1986 and 1989. Therefore, we excluded active thieves and active drug dealers from the two samples, reviewed the lambda estimates, and calculated the differences between the 1986 and 1989 crime rate data. We also isolated the active thieves and active dealers and compared their λ estimates across cohorts. The results from this analysis are presented in Table 4.20.

TABLE 4.19
COHORT DIFFERENCES: SELF REPORTED DRUG DEALERS, 1986 AND 1989

CHARCTERISTICS:	1986 (n = 96)	1989 (n = 233)
RACE		
Black	20.8%	32.7%
White	65.6	43.9
Hispanic	13.5	23.4
EMPLOYED 50% LAST TWO YEARS		
No	71.4	74.7
Yes	28.6	25.3
CURRENT CONVICTION OFFENSE		
Burglary	29.2	17.8
Robbery	7.3	7.5
Assault	16.7	10.3
Sex Assault	3.1	4.7
Theft/Forg/Fraud	25.0	22.4
Drug Offense	14.6	28.0
Other	3.1	5.6
PRIOR VIOLENT CONVICTION, LAST 5 YEARS (includes juvenile offenses)	8.3	13.5
PRIOR CONVICTION FOR BURGLARY, ROBBERY, THEFT, MVT (included juvenile offenses)	43.7	47.6
CRIME VARIETY (SELF-REPORT)		
Participated only in drug dealing	15.6	29.6
2 crime types	14.6	24.5
3 crime types	24.0	21.9
4 crime types	13.5	11.2
5-8 crime types	32.5	12.8
BEHAVIOR SEVERITY SCORE		
1 (no aggression)	66.7	66.0
2 (threats, weapons)	2.1	4.3
3 (property violence)	2.1	7.4
4 (minor phy/emotional harm)	5.2	11.7
5-7 (death, involuntary)	1.0	2.2
8 (life-threatening force)	18.8	4.3
9 (murder, no agg. factors)	1.0	1.1
10-11 (murder, torture)	0	2.1

TABLE 4.20
PERCENT DIFFERENCES IN MEAN OFFENDING RATES
BETWEEN 1986 AND 1989[12]

CRIME TYPE	All 1986 and 1989 Active Offenders	Excluding Active Thieves	Excluding Active Dealers	Among Active Thieves	Among Active Dealers
Burglary	-34.9%	-37.8%	-32.0%	-9.8	-32.1
Robbery	-72.7	+28.2	+30.1	-83.3	-80.0
Assault	+77.7	+89.5	+91.1	-7.8	+70.9
Theft	-68.1	N/A	-66.3	-68.1	-66.3
MVT	-56.5	-71.1	-76.0	-39.6	-76.0
Forgery	+11.1	+72.9	-64.2	-64.2	+64.2
Fraud	+70.2	+90.5	-19.9	-57.5	-19.9
Drug Dealing	-22.7	+66.5	+27.1	-5.2	+27.1
TOTAL	-44.7	+65.6	-8.1	-59.2	-72.7

Overall λ estimates, which declined by 44.7% in 1989 compared to 1986, increased by over 65% after excluding differences caused by the theft measurement artifact. This is an important finding for it reveals the sensitivity of the λ estimates to measurement effects. The criminal justice system's focus on drug offenses, clearly impacted the λ estimates obtained for the 1989 prisoners after dealers were excluded from the analysis.

Recall that the 1989 description of theft was designed to exclude thieves who stole items worth less than $300, and interviews with some of these offenders revealed that these were high-rate, but petty theft activity. The dramatic drop in the 1989 λ rates alludes to the impact of changing the definition of theft. Starting at the last row in Table 4.20, we can see that overall λ estimates, which declined by 44.7% in 1989 compared to 1986, increased by over 65% after excluding differences caused by the theft measurement artifact. All crime types except burglary were affected by removing this subgroup: the active thieves appear to be largely responsible for unexpected decreases in λ between in 1986 and 1989 for robbery, forgery and drug rates, and appear to be responsible for approximately 20 percentage point drops from otherwise increased λ's in fraud and assault, respectively. Thieves may be associated with pulling up MVT rates by 15% or so in 1989.

It appears that excluding these offenders from the sample in 1989 significantly lowered the crime rates in the study. The fact that the rates increase even more when excluding thieves means

that these rates declined from 1986 to 1989 for thieves, as can be seen from Table 4.20 (data column 4). This is a very important finding for it reveals the sensitivity of the λ estimates to measurement effects.

The criminal justice system's focus on drug offenses, as reflected in the third column of Table 4.20, also resulted in changing the profiles of the 1986 and 1989 samples. This, too, clearly impacted the λ estimates obtained for the 1989 prisoners. Overall, the difference in the total crime rates between the cohorts was an 8% decline in λ after dealers were excluded from the analysis compared to a decline of 44.7%. Dealers appear to be associated with about half the decrease in robbery rates and over one-third the decrease in MVT. The change in offender characteristics due to drug offenses also seems to have pulled down the 1989 λ estimates for assault, forgery and fraud by over 10%.

Finally, neither dealers nor thieves appear responsible for the nearly 35% decline in burglary rates between 1986 and 1989. However, the proportion of the sample convicted of burglary decreased by 22%, and this change in burglary convictions is a likely factor in the variation in burglary λ estimates.

In sum, we have evidence that both measurement effects and criminal justice processing practices may have resulted in lower self-reported crime rate estimates in the 1989 study. The impact is even more dramatic considering the shorter measurement period would have increased mean λ estimates in 1989 compared to 1986. The 1989 questionnaire excluded petty, high-rate thieves, resulting in lower crime rate estimates. Additionally, the 1989 sample appears to contain more moderately aggressive/violent offenders, and this group tends to be responsible for fewer crimes overall. While the proportion of the active samples engaged in drug dealing changed little, the profile of the drug offenders changed to include more aggressive offenders who were committing crimes less frequently (as measured by crime variety and rates). These factors combined to significantly lower the rates obtained in the more recent prisoner survey.

Both measurement effects and criminal justice processing practices seem to lowered self-reported crime rate estimates in the 1989 study. The impact is even more dramatic considering the shorter measurement period would have increased mean λ estimates in 1989 compared to 1986.

Summary of Participation Rate Analyses

Participation rates in the 1986 and 1989 studies were very similar except for expected differences in burglary and theft. Burglary findings appear to be associated with the fact that there were fewer convicted burglars in the sample, and the questionnaire was altered to improve respondents' understanding of burglary (as opposed to robbery). Theft differences appear to be the result of instrumentation effects (changing crime descriptions).

Thus, we found evidence that participation rates are sensitive to cohort differences in the study samples and to measurement effects.

Summary of Frequency Estimates Analyses

We expected the shorter measurement period used in 1989 to lead to higher λ rates by limiting the number of lower rate offenders in the sample (Cohen, 1986). We were surprised to find just the opposite. Despite the fact that there were more offenders reporting λ rates of more than ten crimes, the overall rates are lower in 1989. This appears to be the result of raising the threshold for theft participation was altered to exclude petty but often very high rate thieves, leading to lower λ estimates.

Further, changes in criminal justice processing appear to have resulted in differences between the 1986 and 1989 crime rates. The 1989 sample appears to contain more moderately aggressive/violent offenders, and this group tends to be responsible for fewer crimes overall. These factors--methodological and criminological--combined to significantly lower the rates obtained in the more recent prisoner survey.

ENDNOTES--CHAPTER FOUR

1. According to the National Research Council Panel on Deterrent and Incapacitative Effects, individual criminal activity "should be disaggregated by crime type and demographic group" (Blumstein, Cohen and Nagin, 1978:80). Also see Weis, 1976; Bachman, O'Malley and Johnston, 1978; Tittle, 1980; Elliott et al, 1983, as cited by Visher and Roth, 1986:Appendix A.

2. The "annualized crime rate", λ, refers to the rate at which active offenders commit crimes during the months they were free on the streets during the measurement period. See equation (2) in Chapter Two for the calculation of this rate and its difference from the "effective crime rate."

3. We present charged offenses here because they represent descriptions of the offense before plea bargaining.

4. Mande (1986) obtained this scale from the Oregon Statistical Analysis Center (SAC) where researchers were using it in a public opinion study.

5. Chaiken and Chaiken (1892), reporting on the Rand Second Survey of prisoners in California, Michigan and Texas, also found nearly 30% of the sample reported no activity during the study period.

6. The question, on page 15 of the questionnaire, reads "What cr es did you actually do that led to this prison term?"

7. The proportion of incoming prisoners convicted of robbery actually decreased slightly between 1986 and 1989, from 9.6% to 7.8%, while assault (including menacing) increased from 6.0% to 7.1%, according to Colorado Division of Criminal Justice data collected annually on a 20% sample of state-wide felony case filings.

8. This question sequence also created some significant problems with ambiguous or multiple responses (Chaiken and Chaiken, 1982; Visher, 1986). These problems were minimized during data collection for the Colorado Replication Project by researchers who strongly encouraged inmates to ask questions and, somewhat intrusively, asked inmates directly if they had questions.

9. In Chapter Six of this report, we present evidence that crime rates are lower when respondents are asked about "usual" crime activity over a period of months compared to asking about activity over the entire study period.

10. Arrest probabilities per crime reported to the police varied minimally during this period except for the crime of rape which increased by nearly 50% between 1985 and 1989 (Colorado Bureau of Investigation, 1985; 1989).

11. Horney and Marshall (1991) obtained month-by-month reports of various life-history events along with crime commission reports. The careful attempts to "bound" and anchor life events with crime patterns, and the one-to-one assistance with conceptualizing the measurement period, represent similarities in administration procedures between the current study and the work of Horney and Marshall.

12. Percentages in Table 4.20 were derived from the following data on mean offending frequencies.

	Excluding Active Thieves (n)		Excluding Active Drug Dealers (n)	
	1986	1989	1986	1989
Burglary	36.2 (31)	22.5 (97)	95.5 (47)	64.9 (115)
Robbery	7.9 (24)	11.0 (62)	7.9 (24)	11.4 (52)
Assault	2.0 (36)	19.1 (159)	2.1 (36)	22.5 (127)
Theft	N/A	N/A	178.4 (50)	60.1 (95)
MVT	37.1 (9)	10.5 (42)	35.9 (19)	28.7 (53)
Forgery	96.1 (25)	338.1 (65)	251.0 (31)	362.0 (76)
Fraud	47.9 (8)	505.5 (28)	66.5 (11)	434.6 (32)
Drug Dealing	815.8 (114)	2432.4 (166)	N/A	N/A
TOTAL (EXCLUDING DRUG DEALING)	43.8 (99)	127.9 (161)	186.0 (94)	171.0 (331)

CHAPTER FIVE

COMPARING PARTICIPATION AND FREQUENCY RATES ACROSS SURVEY ADMINISTRATION CONDITIONS

This chapter explores differences in crime participation and frequency reported by samples taking the survey under four varying conditions of survey administration. These are described below. Each of these groups was compared to the "control" group of 872 incoming prisoners. The "control" sample was drawn over a 16-month non-consecutive period, and the other study samples were obtained intermittently throughout this same time period. The control group was surveyed in two locations.

Four Conditions of Survey Administration

Confidential: This is the "control" group, described above and detailed in Chapter Three. Incoming male prisoners were informed that the information they provided would be kept confidential, e.g., we could connect their answers with their names using a questionnaire identification number, and that we might use their names for follow-up research. This group of men was surveyed in two locations.

VISITING ROOM. The administration groups ranged in size from 12 to 20. About midway through the data collection, major renovation began on this room and we were required to move.

TESTING ROOM. This room was much smaller than the visiting room, and the average group size was reduced to 10-12.

Anonymous: We did not obtain the names of 146 men who were administered the longer version of the questionnaire. Data were collected from this group in both the visiting room and the testing room.

Interactive Computer: Men who took this (longer) version of the questionnaire used a portable computer and entered their answers directly to disk. Data were collected confidentially in groups of five. The logistics of data collection for this method differed from the others: we collected data every day during a six week period in April and May of 1989. Our "presence" for this component of the data collection was considerably greater than in other administration conditions, and we became known to the inmates moving in and out of the Diagnostic Unit (DU). This data collection was located behind the DU cellblock, in a small room that was occasionally used as a law library. Nearly all residents of the DU during this period agreed to participate. There was more one-to-one interaction with participants because the computer method was still in the process of development and the software was being "debugged" as we collected data. Data were collected from 399 inmates; data were analyzed on 197 inmates.

Short Questionnaire: 215 men took a version of the self-administered questionnaire that was about 20 pages shorter and took about two-thirds the time (about 50 minutes) to complete. This group was surveyed confidentially in both the visiting room and the testing room.

In this chapter, we explore participation and frequency rates across these groups. Participation and Frequency are defined and discussed in Chapter Four but for the reader's convenience, since the data are disaggregated by crime type, we repeat the crime definitions below.

To measure participation in various crime types, inmates were asked to respond "Yes" or No" to the following questions, each of which was followed with the statement, "Include the offense you are now serving time for."

BURGLARY	During the street months on the calendar did you do any burglaries? Count any time that you broke into a house or a business in order to take something. Do not include breaking into a motor vehicle.
ROBBERY	During the street months on the calendar did you do any robberies? That is, did you rob any business or persons?
ASSAULT	Even if no one was hurt, during the street months on the calendar did you have a fist fight with someone, threaten someone with a weapon, shoot at someone, try to cut someone, or beat or strangle someone?
THEFT	During the street months on the calendar did you do any theft or boosting worth $300 or more? That is, did you steal from a till or cash register, pick pockets or take something from someone without their knowledge? Include breaking into a car but not vehicle theft.
VEHICLE THEFT	During the street months on the calendar did you steal any cars, trucks or motorcycles?
FORGERY	During the street months on the calendar did you ever forge something, use a stolen or bad credit card, or pass a bad check?
FRAUD	During the street months on the calendar did you ever do any frauds or swindles (illegal cons) of a person, business or the government? Include welfare and food stamp fraud.
DRUG DEALING	During the street months on the calendar did you ever deal in drugs? That is, did you make, sell, smuggle or move drugs?

The frequency with which a respondent engaged in crime was calculated for those who reported participation. Since respondents' "opportunity time" to commit crime varied (if, for example, a person had been jailed or hospitalized), the frequency rates while free in the community were annualized (creating lambda, λ), for comparison purposes.

PARTICIPATION RATES

What Did We Expect To Find?

Location: Half of the men were surveyed in the prison visiting room and half were surveyed in the testing room in the prison's diagnostic unit. We might hypothesize that the visiting room provided a more "neutral" environment to collect sensitive information, since the testing room was used to collect classification and programming data from all inmates. This classification process clearly linked information to their treatment in prison. Hence, administering the survey in the more neutral location might lead to higher reports of participation.

Methods: If participation rates are reliable across different methods of measurement, we would have expected to find nothing different in the rates of participation in the eight crime types. However, we hypothesize that two of the methods used as possible "improvements" on the research design (anonymous conditions and the computer method) would increase offenders' comfort level in reporting sensitive information and thus produce higher reports of participation. On the other hand, the shortened version, which did not provide sufficient rapport-building questions before asking the sensitive crime questions, might elicit fewer admissions of illegal activity.

Two of the methods used as possible "improvements" on the research design (anonymous conditions and the computer method) might increase offenders' comfort level in reporting sensitive information and thus produce higher reports of participation. But the shortened version, which did not provide many rapport-building questions, might elicit fewer admissions of illegal activity.

Because of the large sample sizes examined, the probability level for statistical significance in chi-square analyses (presented below) was set at .01.

Findings: Participation Rates

Location: There were no statistically significant differences in participation rates across the two testing locations. For five crime types, including forgery where the largest difference was found, the participation rates reported in the visiting room were slightly higher than the rates obtained in the testing room. However, the differences were in the opposite direction for assault (an offense that might be considered a particularly sensitive one to report), fraud and

Self-reported participation rates are not sensitive to the two locations we studied, but we would strongly recommend studies be conducted in the most neutral available location.

drugs. We conclude that self-reported participation rates are not sensitive to the two locations we studied, but we would strongly recommend studies be conducted in the most neutral available location. Nevertheless, this finding is reassuring, since researchers often have little control over where they collect data in a prison setting.

TABLE 5.1
PARTICIPATION RATES OF THE CONTROL GROUP, BY LOCATION
n=872*

	VISITING (n)	TESTING (n)	CHI SQ	p
Burglary	23.5% (101)	21.7% (96)	.414	.52
Robbery	12.4 (53)	11.2 (49)	.35	.552
Assault	26.1 (112)	29.5 (130)	1.23	.267
Theft	21.2 (91)	18.7 (82)	.872	.350
MVT	12.1 (52)	10.3 (45)	.765	.381
Forgery	16.4 (70)	11.6 (51)	4.21	.040
Fraud	7.0 (30)	7.5 (33)	.07	.787
Drug Dealing	28.1 (121)	33.0 (145)	2.37	.123

*The total "n" varied across crime types and location due to cases with missing data.

Anonymous Conditions: There were no statistically significant differences in the participation rates when respondents were surveyed anonymously versus confidentially, as shown in Table 5.2. In addition, differences were not systematic in either direction.

TABLE 5.2
PARTICIPATION RATES:
CONFIDENTIAL AND ANONYMOUS
(number of participants is in parentheses)

	CONF (n)	ANON (n)	CHI-SQUARE	p
Burglary	22.6% (197)	25.3% (37)	.382	.537
Robbery	11.7 (102)	7.5 (11)	1.817	.178
Assault	27.8 (242)	34.9 (51)	2.747	.079
Theft	19.9 (173)	19.2 (28)	.010	.921
MVT	11.2 (97)	13.8 (20)	.582	.446
Forgery	13.9 (121)	11.6 (17)	.382	.536
Fraud	7.2 (63)	4.8 (7)	.811	.368
Drug Dealing	30.6 (266)	33.1 (48)	.263	.608

Computer Method: Because of the small sample size (n = 197), crime types were combined into four categories, as indicated in Table 5.3. When respondents were surveyed using the computer rather than a paper/pencil questionnaire, there were no differences in reported participation rates. The variation in the robbery/assault category (33.8% compared to 40.6%) can be attributed to robbery rather than assault. When these two crimes are tested separately, 28% of both groups reported assault participation, whereas 11.7% (n = 102) of paper/pencil respondents reported robbery compared to 18.8% (n = 37) of respondents using the computer method (p = .01). Aside from this variation, the patterns of participation rates do not differ, and we conclude that the computer method does not impact participation rates. This is important since this method is more complicated logistically, and we would choose the ease of administering the paper and pencil version over the use of portable computers.

When respondents were surveyed anonymously, or using the computer rather than a paper/pencil questionnaire, or the shortened version of the questionnaire there were no differences in reported participation rates.

TABLE 5.3
PARTICIPATION RATES:
PAPER/PENCIL AND COMPUTER*

	PAPER (n)	COMPUTER (n)	CHI-SQUARE	p
Burglary, Theft, or MVT	35.7% (308)	33.0% (65)	.526	.468
Robbery or Assault	33.8 (293)	40.6 (80)	3.312	.069
Forgery or Fraud	18.3 (159)	17.3 (34)	.126	.720
Drug Dealing	30.6 (266)	33.5 (66)	.642	.423

*Crime categories are collapsed due to the low number of computer version cases.

Shortened Questionnaire:

Comparing the shorter version of the paper/pencil questionnaire with the longer one, no differences were found in reports of participation. The largest difference was higher reports of participation in drug dealing in response to the shortened version (39% compared to 30.6%). Table 5.4 summarizes this information.

Comparing the shorter version of the paper/pencil questionnaire with the longer one, no differences were found in reports of participation. The largest difference was higher reports of participation in drug dealing in response to the shortened version (39% compared to 30.6%).

TABLE 5.4
PARTICIPATION RATES:
LONG AND SHORT VERSIONS*

	LONG VERSION (n)	SHORT VERSION (n)	CHI-SQUARE	p
Burglary, Theft or, MVT	39.6% (342)	37.6% (80)	.307	.579
Robbery or Assault	33.8 (293)	37.0 (73)	.776	.378
Forgery or Fraud	18.3 (159)	14.0 (30)	2.200	.136
Drug Dealing	30.6 (266)	39.0 (83)	5.140	.023

*Crime categories are collapsed due to the low number of shortened version cases.

Participation, Race and Method

When the anonymous (where we might expect higher rates to be reported) and shortened-version (where we would expect responses to be inhibited) cohorts were disaggregated by race, more specific differences became apparent. Because the number of cases per crime category decreases considerably when the data are explored across race, the crime categories were collapsed, as presented in Table 4.4.

Differences in participation across administration conditions were reported among black respondents for three of the four crime categories. Except for the drug category, for which no differences were found, responses by blacks varied as expected, with black inmates reporting higher participation rates using the anonymous version of the questionnaire, and lower participation rates on the shorter version of the questionnaire for the burglary/theft category and especially for forgery/fraud. Hispanics, on the other hand, reported more burglary/theft participation using the short version, and fewer whites reported forgery/fraud participation using the anonymous method, findings which are not in the expected direction. Importantly, use of the shorter version of the self-administered questionnaire does not appear to reduce participation rates (although this inference is less conclusive for black respondents).

In sum, blacks may be more sensitive to variations in methods of data collection compared to whites and Hispanics (as we shall see in Chapter Seven, self-report data from blacks correlate less strongly than whites in test-retest analyses). These findings are consistent with those of Hindelang, Hirschi and Weis (1981). Given that, overall, we do not appear to lose information using the shortened version, we would recommend its use in future research since it takes two-thirds the time to administer compared to the longer version. The issue of differential reliability across race remains an important research question.

Blacks may be more sensitive to variations in methods of data collection compared to whites and Hispanics. The issue of differential reliability across race, then, remains an important research question.

TABLE 5.5
PARTICIPATION RATES BY RACE AND RESEARCH CONDITION:
Chi-Square Analysis

	BLACKS				WHITES				HISPANICS			
	CONF, LONG (n=226)	ANON, LONG (n=27)	CONF, SHORT (n=44)	p	CONF, LONG (n=413)	ANON, LONG (n=72)	CONF, SHORT (n=120)	p	CONF, LONG (n=202)	ANON, LONG (n=37)	CONF, SHORT (n=39)	p
Burglary Theft or MVT	39.9%	48.1%	20.5%	**	41.2%	34.7%	37.8%	--	36.5%	51.4	52.6%	*
Robbery or Assault	37.2	51.9	43.2	**	30.9	29.2	24.8	--	33.3	40.5	47.4	--
Forgery or Fraud	16.8	33.3	4.5	***	23.2	9.7	18.3	**	10.0	16.2	10.5	--
Drug Dealing	36.2	42.3	46.5	--	29.8	31.9	36.7	--	27.2	29.7	42.1	--

Note: Crime categories have been collapsed because of small sample sizes.
*p <.05; **p <.01; ***p <.001.

Crime Frequency Rates

What Did We Expect To Find?

Location: Administering the survey in the more neutral location might lead to higher reports of crime frequency. The visiting room may have provided a more "neutral" environment to collect sensitive information since the testing room was used to collect classification and programming data from all inmates.

Methods: The three methods investigated as possible "improvements" on the research design could alter estimates of λs obtained. Two methods (anonymous conditions and the computer method) might increase offenders' comfort level in reporting sensitive information and so generate reports of greater activity. Alternatively, the shortened version, might collect fewer admissions of illegal activity because it might not provide sufficient rapport-building questions before asking the crime activity items.

Findings: Individual Frequency Rates

To obtain estimates of annual individual offending rates, λs are calculated only for the subset of offenders who reported committing at least one crime during the months they were on the street. This rate, annualized across offenders for comparison purposes, reflects the extent of criminal activity during the measurement period.

Because λ values can be easily misinterpreted by nontechnical readers, it is important to recall the careful discussion in Chapter Two which qualifies the self-reported crime rate data. Two important characteristics render the crime rate values inappropriate measures of precise crime activity levels: (1) extremely high variation in offending frequencies, and (2) crime reports that reflect the activity levels of society's most active offenders. Using specific crime rate values to literally reflect levels of criminal activity would be incorrect and misleading.

Because λ values can be easily misinterpreted by nontechnical readers, it is important to recall the careful discussion in Chapter Two which qualifies the self-reported crime rate data. Using specific crime rate values to literally reflect levels of criminal activity would be incorrect and misleading.

Table 5.6 presents the mean, median, 25th, 75th and 90th percentile values per crime type for respondents participating in each of the four data collection methods. Remember that the extremely skewed λ distribution renders the mean value meaningless for purposes besides the analysis at hand since it is easily impacted by one or two cases with extremely high crime rates (a problem noted also by Chaiken and Chaiken [1982], Mande and English [1988], and Horney and Marshall [1991]).

TABLE 5.6
ESTIMATES OF ANNUAL FREQUENCY RATES (LAMBDA) WHILE FREE USING FOUR METHODS OF DATA COLLECTION

	CONFIDENTIAL (n=872)	ANONYMOUS (n=146)	SHORTENED VERSION (n=215)	COMPUTER (n=197)
Burglary (n)	(181)	(35)	(45)	(30)
25th Percentile	1.3	1.1	1.3	1.1
Median	6.0	7.2	6.0	6.6
75th Percentile	36.0	48.0	15.0	42.0
90th Percentile	117.8	601.9	84.0	231.4
Robbery (n)	(90)	(9)	(20)	(37)
25th Percentile	1.0	1.0	1.8	1.0
Median	2.7	1.0	5.0	2.0
75th Percentile	10.5	8.0	8.0	8.0
90th Percentile	28.8	12.0	56.4	24.2
Assault (n)	(216)	(47)	(65)	(55)
25th Percentile	1.0	1.1	1.0	1.0
Median	2.5	3.4	1.5	2.0
75th Percentile	7.6	12.0	7.0	4.0
90th Percentile	24.7	24.4	24.0	25.2
Theft (n)	(162)	(28)	(45)	(0)*
25th Percentile	2.4	2.0	2.5	
Median	11.1	26.0	12.0	
75th Percentile	60.0	75.0	56.0	
90th Percentile	160.8	196.8	168.0	
MVT (n)	(89)	(17)	(33)	(20)
25th Percentile	1.1	1.0	1.0	1.0
Median	2.0	2.0	2.0	1.6
75th Percentile	13.2	66.0	9.6	6.5
90th Percentile	60.0	5073.6	113.4	44.3
Forgery (n)	(113)	(17)	(21)	(25)
25th Percentile	2.0	1.0	3.5	1.0
Median	8.0	1.0	17.1	1.1
75th Percentile	37.2	9.0	74.0	9.5
90th Percentile	246.6	40.0	680.0	37.6
Fraud (n)	(58)	(6)	(13)	(15)
25th Percentile	4.0	6.2	2.5	2.0
Median	12.5	210.0	6.0	10.0
75th Percentile	63.0	3240.0	72.0	24.0
90th Percentile	246.0	5592.0	1596.0	214.7
Drug Dealing (n)	(233)	(44)	(73)	(66)
25th Percentile	103.2	118.1	120.4	51.6
Median	309.6	346.2	387.0	225.8
75th Percentile	1477.6	1537.3	1578.1	1096.5
90th Percentile	5160.0	14659.1	5212.1	16254.0

*Data on theft were not available for the computer method.

Across Methods

Anonymous: For many crime types, the anonymous version seems to obtain higher 75th and 90th percentile rates. However, when the cumulative frequency distributions for each crime rate were compared across confidential and anonymous conditions, no statistical differences were found

TABLE 5.7
COMPARISON OF DISTRIBUTIONS OF ANNUAL CRIME FREQUENCIES: CONFIDENTIAL AND ANONYMOUS MEN

	MEN (n)	ANON MEN (n)	MOST EXTREME DIFFERENCE	Z	p
Burglary	181	35	.129	.70	.712
Robbery	90	9	-.378	1.08	.193
Assault	216	47	.101	.63	.823
Theft	162	28	.143	.70	.711
MVT	89	17	.179	.68	.750
Forgery	113	17	-.405	1.56	.016
Fraud	58	6	.431	1.01	.265
Drug Dealing	233	44	.088	.54	.937

Note: The Kolmogorov-Smirnov two-sample test was used to determine statistical difference. The z score indicates whether the distributions are too far apart at any point, suggesting the samples come from different populations (Siegel and Castellan, 1988).

except for forgery (Table 5.7). The difference, graphed in Figure 5.1, yields consistently higher crime rate estimates for the anonymous condition. At the lower end of the distribution, half of the confidential cohort reported a forgery estimate of eight while half of the anonymous group reported estimates of one or less. At the other end of the distribution, ninety percent of the anonymous group again had lower forgery estimates (40 crimes or fewer) compared to the confidential group (246 forgeries or more).

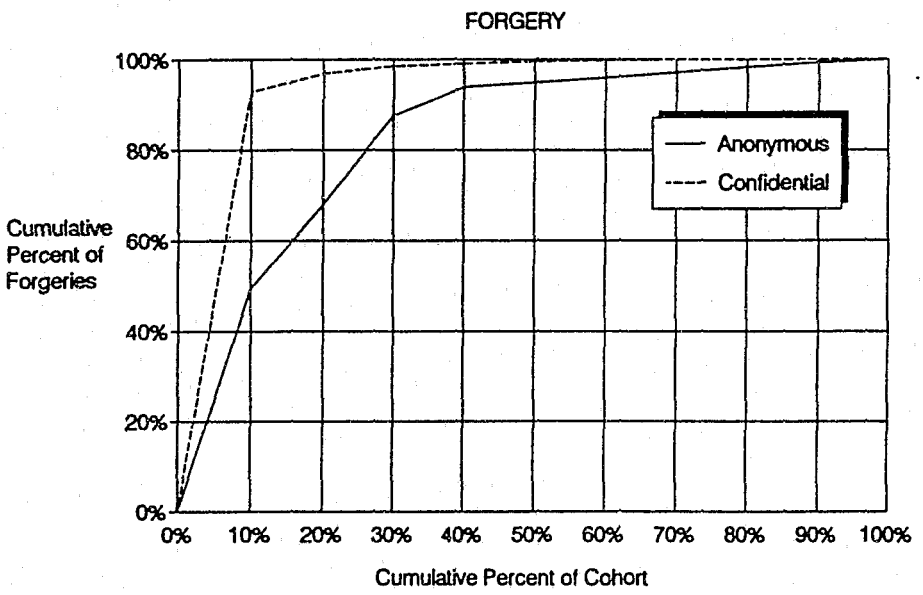
Although the number of anonymous forgery cases is small (n = 17), the Kolmogorov-Smirnov (K-S) test allows adjustments when either group is less than 25 (Siegel and Castellan, 1988:147). Although the K-S test found significant differences for only one crime type (forgery), the upper-end crime rate values from the anonymous surveys are high for burglary, motor vehicle theft, fraud and drugs compared to the confidential group, and compared to offenders reporting crimes using the other methods. We have no

Given this variability in the crime rates generated by the anonymous method, we would not recommend its use by researchers doing prisoner self-report studies.

way of knowing if these higher values are more or less accurate, that is, if the anonymous version encourages honesty or exaggeration. Our experience on-site during data collection was that inmates participating in anonymous groups were very suspicious of our assurances of anonymity

FIGURE 5.1

Cumulative Offense Distributions: Anonymous and Confidential*



*These distributions were different at the .10 level of statistical probability.

Anonymous n=17
Confidential n=113

TABLE 5.8
COMPARISON OF DISTRIBUTIONS OF ANNUAL CRIME FREQUENCIES: PAPER/PENCIL AND COMPUTER METHODS

	PAPER (n)	COMPUTER (n)	MOST EXTREME DIFFERENCE	Z	p
Burglary	181	27	.098	.473	.979
Robbery	90	36	-.100	.507	.959
Assault	216	40	-.156	.904	.388
Theft	162	43	-.154	.895	.400
MVT	89	20	-.237	.956	.320
Forgery	113	20	-.305	1.26	.084
Fraud	58	14	-.185	.620	.836
Drug Dealing	233	66	-.122	.877	.425

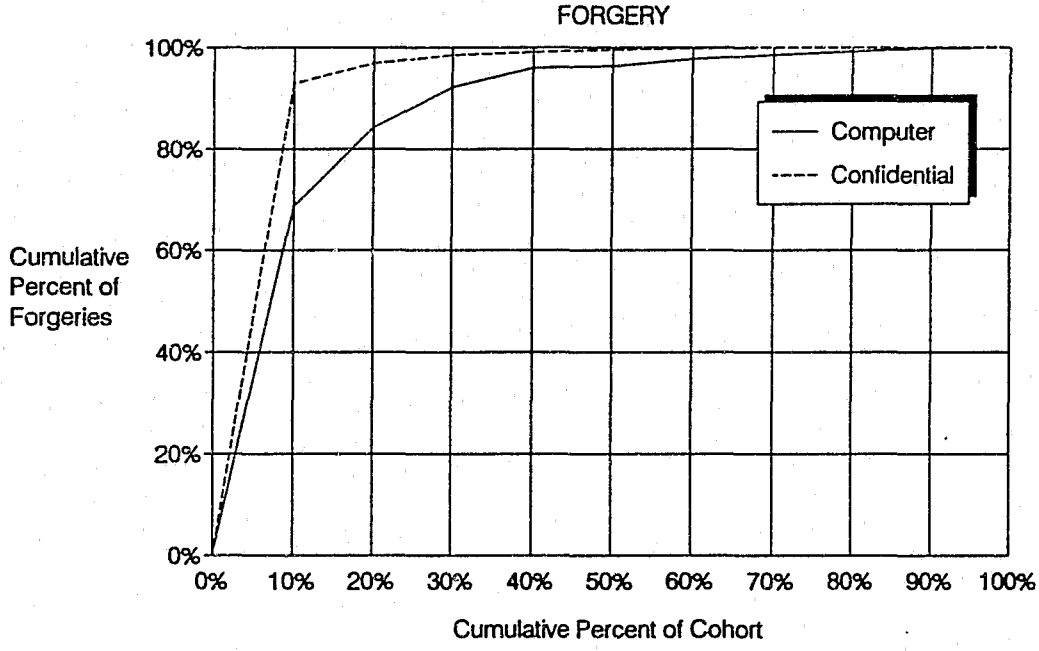
Note: The Kolmogorov-Smirnov two-sample test was used to determine statistical difference.

and, indeed, it would have been quite easy for us to obtain their names. Given this on-site experience, and the variability in the crime rates generated by the anonymous method, we would not recommend its use by researchers doing prisoner self-report studies.

Computer: Again, there are differences between administration methods for forgery ($p = .084$), and the differences in the lower end of the distribution are similar to those described above. As indicated in Figure 5.2, nearly half of the cohort using computers reported annualized rates of one while half of the paper/pencil group reported annualized frequencies of 8 or less.

FIGURE 5.2

Cumulative Offense Distributions: Computer and Confidential*



*These distributions were different at the .10 level of statistical probability.

Computer n=25
Confidential n=113

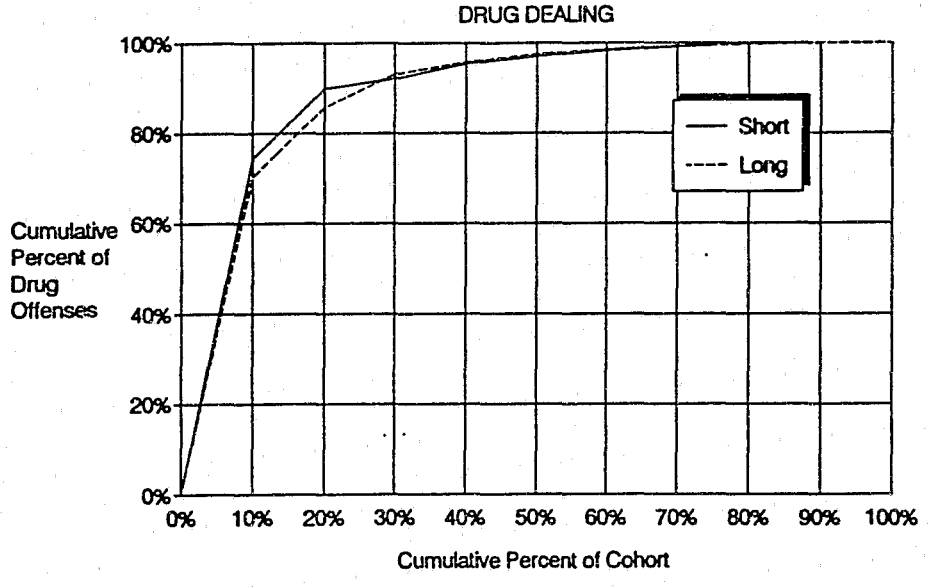
TABLE 5.9
COMPARISON OF DISTRIBUTIONS OF ANNUAL CRIME FREQUENCIES: LONG AND SHORT VERSIONS

	LONG (n)	SHORT (n)	MOST EXTREME DIFFERENCE	Z	P
Burglary	181	45	.104	.64	.827
Robbery	90	23	.210	.89	.396
Assault	216	66	-.155	1.10	.174
Theft	162	48	.1096	.67	.776
MVT	89	34	-.142	.71	.703
Forgery	113	20	.266	1.10	.179
Fraud	58	14	.135 -.135	.46	.986
Drug Dealing	233	81	.2096	1.63	.010

Note: The Kolmogorov-Smirnov two-sample test was used to determine statistical difference.

Shortened Version: The Kolmogorov-Smirnov (K-S) test found differences in lambda estimates for drug dealing crimes ($z = 1.63$; $p = 01$), as presented in Table 5.9. The crime rate distributions, shown in Figure 5.3 (note that crime frequency is in increments of 5^2 to account for the increased activity in this crime type), indicate differences at the low ends of the distributions with data from the shorter version generating higher estimates of crime frequencies at the 10th, 25th and 50th percentiles compared to the longer version (36, 120 and 387 compared to 20, 103 and 310, respectively), a pattern which persists until the cumulative frequency distribution reaches 1,600 (40^2) drug crimes annually.

FIGURE 5.3
Cumulative Offense Distributions: Short and Long Version*



*These distributions were different at the .10 level of statistical probability.

Short n=71
Long n=233

Location: There were no differences in the distributions of crime frequencies across location, as illustrated in Table 5.10. The cohorts were disaggregated by race and still no differences across location were found. It is important that lambda distributions appear consistent across different prison locations since researchers often have little control over where data collection occurs, particularly when housing conditions are extremely crowded. Nevertheless, we recommend conducting surveys of this sort in neutral locations.

TABLE 5.10
COMPARISON OF DISTRIBUTIONS OF ANNUAL CRIME FREQUENCIES: LOCATION

	VISITING ROOM (n)	TESTING ROOM (n)	MOST EXTREME DIFFERENCE	Z	p
Burglary	81	100	.067	.45	.987
Robbery	44	46	.165	.78	.573
Assault	93	123	.153	1.12	.165
Theft	76	86	.142	.90	.388
MVT	42	47	-.218	1.03	.241
Forgery	62	51	.213	1.12	.160
Fraud	23	35	-.352	1.31	.065
Drug Dealing	93	140	.094	.71	.701

Note: The Kolmogorov-Smirnov two-sample test was used to determine statistical difference.

Frequency Distributions and Demographic Characteristics

Estimates for each sample were disaggregated by race, education and age, but no differences in lambda rates were found (data not presented).[1] We found some differences in participation rates by race, reported in the previous chapter, but frequency rates appeared less susceptible to variations among demographic subgroups.

Summary: Self-reported crime frequency data are characterized by their sensitive nature (after all, the information is incriminating), and this issue is potentially magnified by the fact that data are collected inside penitentiaries. In this study, we examined several alternative methods of collecting these data; some methods might be expected to lead to lower reports of criminal activity (the shortened version,

The data presented here suggest that, overall, individual crime frequency data obtained from inmate self-reports is robust across a variety of data collection methods, although there appear to be some racial differences that require further attention.

collecting in the prison testing room), while others might lead to higher reports of criminal activity (anonymous assurances, computers, and testing in the "neutral" visiting room). We also explored race differences in the sensitivity of lambda estimates to different to survey conditions. The data presented here suggest that, overall, individual crime frequency data obtained from inmate self-reports is robust across a variety of data collection methods, although there appear to be some racial differences that require further attention.

Summary: Crime Participation and Frequency

Participation:

Few differences in participation rates across different survey methods were uncovered. There were some differences by race, however: blacks tended to report higher participation rates using the anonymous version of the survey. This difference requires further investigation. Most respondents using the shorter version of the questionnaire reported higher participation rates suggesting that we do not lose information with this more expedient method of data collection.

Except for race-specific findings, which remain inconclusive, reports of offending appeared to be neither increased using the anonymous or the computer method nor decreased using the shortened version of the questionnaire. Where differences existed for the overall sample, they were not systematic in direction. The rates were particularly stable across the two locations studied which is important given the sensitive nature of the data collected in a prison environment.

Frequency:

Overall, lambda rates remained fairly stable across different methods of data collection. The anonymous version obtained some extremely high crime rates compared to the other methods; we do not know if this reflects more accurate or more exaggerated responses. The shorter version of the data collection instrument generated somewhat higher reports of drug dealing, but we found no other differences in cumulative offending frequencies across survey methods. This suggests that the shorter version could be administered in two-thirds the time without any loss of data--an important consideration in selecting a method for collecting self-reported crime rate data.

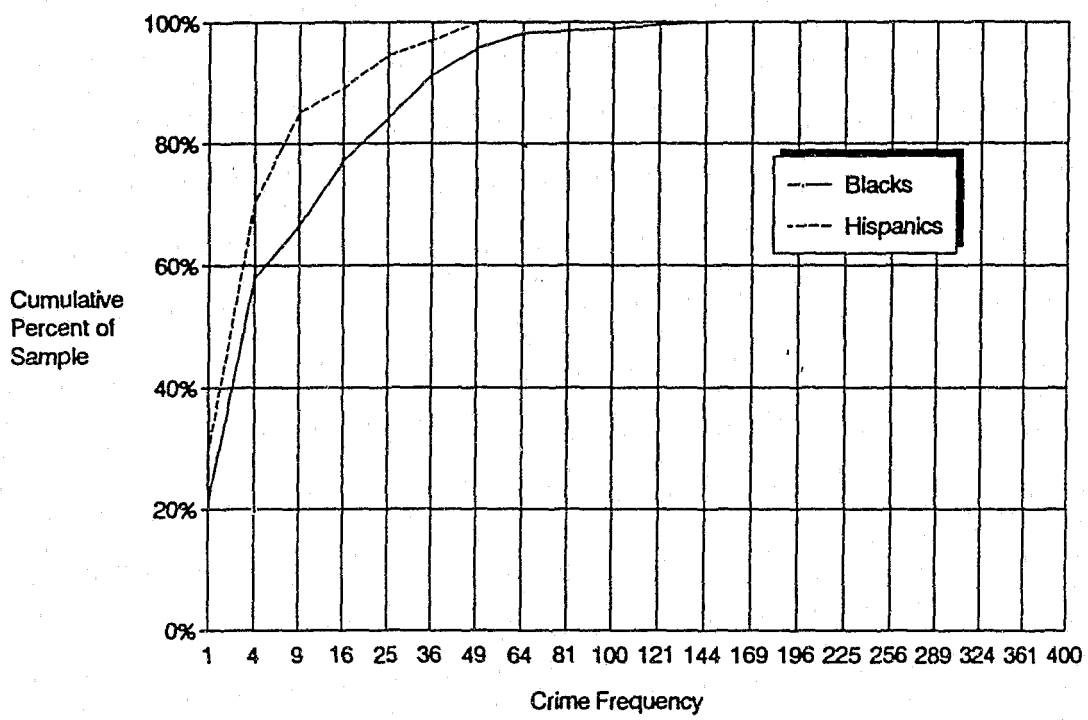
No differences in lambda estimates were found across race, age or education for the different methods.

ENDNOTES--CHAPTER FIVE

1. One difference was found in the race analyses examining blacks, whites and Hispanics within a single survey condition. The Kolomogorov-Smirnov test of cumulative frequency distributions found a difference in the assault distributions between hispanics and blacks in the sample of "confidential" men (n=872). Cumulative assault frequencies are similar in the lower end of the distribution (the median for both groups is less than three). However, 70% of hispanics reported four or fewer assaults while 70% of blacks reported 11 or fewer. This suggests that blacks reported assaults at significantly higher rates compared to hispanics for the larger study sample.

FIGURE 5.4

Cumulative Percent Distribution: Assault Rate Differences by Race*



*These distributions were different at the .10 level of statistical probability.

Blacks: N=57
Hispanics: N=54

CHAPTER SIX

SELF-REPORTED CRIME RATES OF WOMEN

All empirical research tests theories (Bernard and Ritti, 1990) but not all theories have been tested (Bernard, 1987; Bernard, 1990). This generally has been the case for crime and delinquency theories as they pertain to female deviance. According to Crew (1991), crimes committed by women differ in "quantity and quality" from those committed by men (Bowker, 1978; Simon, 1980; Richey-Mann, 1984; Steffensmeier, 1980a, 1980b), yet theoretical development often does not reflect this. Leonard (1982:114) notes that: "Theoretical criminology was constructed by men, about men." This might be because our study samples are composed mostly of boys or men. Smith and Paternoster (1987:140) explain:

> with few and isolated exceptions, major theoretical works in the area have concentrated on explaining male deviance....It has not been surprising, then, that most empirical work in the area has been conducted predominantly with samples of male adolescents (Short, Rivera and Tennyson, 1965; Elliott, 1962; Landis, Dinitz, and Reckless, 1963; Reckless, Dinitz, and Murray, 1956, 1957; Hirschi, 1969; Wiatrowski, Griswold and Roberts, 1981; Matsueda, 1982).

Important exceptions include the work of Smith and Paternoster (1987), Ageton (1983), Smith (1979), Richards and Tittle (1981), Simons, Miller and Aigner (1980), and Elliott and Voss (1974) which used data sets that included information about females. Overall, as noted by Heidensohn (1991:50), the last two decades "have been a period of major research and public interest in women and crime (Heidensohn, 1985, 1989; Carlen, 1985,1988)." However, the frequent lack of data available on female offenders is one reason gender differences are not examined more frequently in criminology.

Nationwide, women accounted for only 5.7% of the prison population by the end of 1989--when this study was conducted--and this was a 200% increase since 1980 (Greenfeld and Minor-Harper, 1991). In Colorado, women comprise seven percent of the total prison population, but the number of women in prison here has more than tripled in the last decade. In an era of fiscal restraint, researchers often do not have sufficient resources to include women in a sample for a study that purports to examine policies with system-wide (i.e., predominantly male) impacts.

Until the current project, no previous studies of prisoners' self-reports of crime have included women. Are offending rates of female prisoners highly skewed like those of their male counterparts?

Until the current project, no previous studies of prisoners' self-reports of crime have included women. Self-reports of crime by prisoners have had considerable influence on discussions of crime control policies, yet the extent to which that discussion applies to women offenders remains unknown because of the paucity of data. For example, are offending rates of female prisoners highly skewed like those of their male counterparts?

Although we do not directly address the policy issues here, we do examine whether data on offending vary systematically by gender on dimensions of interest to policy makers and researchers. And, with this study, more data are now available for researchers to establish the magnitude and direction of gender differences, in criminality and related correlates.

The purpose of this chapter is to provide data on the distribution of crime rates reported by a sample of inmates housed at the Colorado Women's Correctional Facility. A complete description of the sample and study methods is in Chapter Three.

This chapter is organized as follows: First, the samples of women and men are described by current conviction offense, demographics and self-reports of criminal history. Then, the career dimensions of participation and frequency are examined. This is followed by some general descriptions of gender differences in criminal motivation and illicit drug use.

Description of the Samples

A random sample of 128 females housed in the Colorado Women's Correctional Facility between November 1988 and April 1989 completed the self-administered questionnaire. A random sample of 872 men participated in the study between August 1988 and January 1989. The female cohort is a *prison population sample* and is compared throughout this analysis to a male *intake cohort*.[1] A prison population cohort is presumably composed of more serious offenders compared to an intake cohort, so this difference is important to note.

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TABLE 6.1
MOST SERIOUS CONVICTION CHARGE
(Official Record Data)

CONVICTION CHARGE	WOMEN (n=116)	MEN (n=420)
Burglary/Trespassing	3.4% (4)	21.3% (89)
Robbery	6.9 (8)	8.9 (37)
Homicide	12.8 (16)	5.3 (22)
Assault/Sex Assault/Child Abuse/Menacing/Kidnap	5.2 (6)	24.7 (103)
Theft/Forgery/Fraud	41.4 (48)	18.9 (79)
Drug Offenses	14.7 (17)	11.5 (48)
Other Crimes	14.7 (17)	9.4 (39)
TOTAL	100.0 (116)	100.0 (417)
$p < .0001$ Chi Square = 64.9		

Note: Official record data collected from prison files of 420 of 872 men and 116 of 128 women.

Indeed, as shown in Table 6.1, the two cohorts differ significantly ($X^2 = 64.9$, $p < .0001$) the conviction crime recorded in their prison file, but the female population sample was not always more serious than the male intake cohort. Women in this study were more likely to be serving time on a homicide or theft conviction;[2] men were more likely to have been convicted of burglary or assault/weapons crimes.[3] Table 6.2 compares the two groups on their parole eligibility date (collected from official record data) which reflects the seriousness of the current conviction crime, criminal history and other criteria the court considers at sentencing. Although a larger proportion of men than women were to see the parole board in the first 12 months after conviction, suggesting convictions of a less serious nature, differences were not significant overall.

TABLE 6.2
TIME TO PAROLE HEARING:
WOMEN AND MEN
(Official Record Data)

TIME TO PAROLE HEARING	WOMEN (n)	MEN (n)
1 to 6 Months	14.0% (15)	11.3% (43)
7 to 12 Months	8.4 (9)	15.6 (59)
13 to 18 Months	15.0 (16)	14.2 (54)
19 to 24 Months	18.7 (20)	12.1 (46)
25 to 30 Months	3.7 (4)	5.8 (22)
31 to 36 Months	8.4 (9)	5.0 (19)
37 to 42 Months	.9 (1)	5.1 (19)
43 to 48 Months	10.3 (11)	8.2 (31)
49+ Months	20.6 (22)	22.7 (86)
TOTAL	100.0 (107)	100.0 (379)
p= .129 Chi Square= 12.53		

Note: Totals may vary across tables due to missing data on some cases.

Thus, the profiles of the two samples on current conviction crime and sentence reflect some important differences between the groups, only some of which can be attributed to different sampling designs. Rather, the differences more likely result from gender variations in offending commonly documented in Federal Bureau of Investigation annual arrest reports. A noteworthy exception is the similar proportion of men and women in our samples who have been convicted of robbery. We will see this similarity again when we discuss self-reported crime activity.

TABLE 6.3
AGE AT TIME OF SURVEY:
WOMEN AND MEN
(Self-Report Data)

AGE	WOMEN (n=128)	MEN (n=872)
17-20	1.6% (2)	7.7% (67)
21-24	17.3 (22)	23.4 (202)
25-29	30.7 (39)	25.3 (219)
30-34	17.4 (22)	19.1 (165)
35-39	17.3 (22)	11.4 (99)
40+	15.7 (20)	13.1 (113)
TOTAL	100.0 (127)	100.0 (865)
MEAN	31.4 Years	29.9 Years
MEDIAN	30.0 Years	28.0 Years

In the discussion that follows, the sample is compared across demographic and criminal history characteristics. Data obtained from self-reports were used in the descriptions below.

Age: On average, the female cohort was about two years older than the male cohort when they participated in the survey (Table 6.3). We would expect a population cohort to be older: All other things being equal, resident inmates would have aged since intake. Educational differences discussed in Chapter 3 may be relevant, for women stayed in school longer and may have postponed criminal involvement (see Table 6.6).

TABLE 6.4
ETHNICITY: WOMEN AND MEN
(Self-Report Data)

ETHNICITY	WOMEN (n)	MEN (n)
Black	29.1% (37)	26.1% (226)
White	49.6 (63)	46.9 (408)
Hispanic	18.9 (24)	23.6 (206)
Other	2.4 (3)	3.2 (27)
TOTAL	100.0 (127)	100.0 (867)

Ethnicity: A larger share of the female sample was black or white, and a smaller proportion was hispanic, compared to the male sample (Table 6.4). The differences, however, are small and not statistically significant. The low number of female hispanic cases limits our ability to analyze this group of offenders; where race-specific analyses are undertaken, the results should be considered with caution.

TABLE 6.5
MARITAL STATUS: WOMEN AND MEN
(Self-Report Data)

MARITAL STATUS	WOMEN (n)	MEN (n)
Never Married	26.8% (34)	35.0 (301)
Married	21.3 (27)	19.6 (169)
Common Law	17.3 (22)	19.7 (170)
Widowed	3.9 (5)	1.3 (11)
Divorced	26.0 (33)	17.1 (147)
Separated	4.7 (6)	7.1 (61)
TOTAL	100.0 (127)	100.0 (861)

Marital Status: A larger share of the men than women had never been married (35% compared to 26.8%) but this would in part be explained by the fact that men in the sample tended to be younger than the women. Also, women typically marry at a younger age than men. Consistent with more marriages found among women, there are also more divorces: 26% of the women were divorced compared to 17.1% of the men.

Education: The biggest demographic difference between men and women, according to self-report data, was education. Just over one-quarter of the men reported completing high school compared to 42.5% of the women.[4] More men had completed a GED (41.4% compared to 33.9%), and more men had neither finished high school nor obtained a GED (31.1% compared to 22.8%).

The biggest demographic difference between men and women, according to self-report data, was education. Just over one-quarter of the men reported completing high school compared to 42.5% of the women.

TABLE 6.6
EDUCATION
(Self-Report Data)

EDUCATION LEVEL	WOMEN (n)	MEN (n)
Finished High School	42.5% (54)	26.2% (228)
GED	33.9 (43)	41.4 (361)
Neither	22.8 (29)	31.1 (271)
TOTAL	100.0 (127)	100.0 (871)

It appears, then, that the female cohort was better educated than the male cohort. This difference should be kept in mind while reviewing the findings that follow, since survey measures obtained from groups with differential literacy are likely to be differentially reliable.

Criminal History: Finally, we compared the samples of women and men on reports of their ages at important events in a their criminal career. Table 6.7 presents these data.

TABLE 6.7
CRIMINAL HISTORY: WOMEN AND MEN
(Self-Report Data)

MEAN AGE WHEN:	WOMEN (n)	MEN (n)
Committed of 1st Offense	20.3 (127)	17.2 (856)
1st Questioned by Police	20.8 (127)	16.9 (856)
1st Arrested	21.9 (127)	17.9 (856)
Arrested for 1st Felony	25.2 (128)	22.2 (866)
1st Convicted of Felony	25.5 (127)	22.2 (856)

Women generally tended to be three to four years older than men at each of these career benchmarks. The exception to this, as reported by the groups, was the mean age at which they committed their first property crime (age 20). It is interesting to note that, on average, both groups reported committing violent crimes before they engaged in property crimes.

According to self-report data, there were differences in the type of crime at first arrest across genders. Men were significantly more likely to have been first charged with burglary, robbery or auto theft, homicide, forgery or fraud were more likely to be the first arrest crime for women (data not presented). This crime type difference recurs throughout the findings presented in this chapter.

In sum, women were more likely to be serving time for homicide or theft, while the sample of men included more offenders currently convicted of burglary or violence-related offenses. The sample of women tended to be older at the time of the study and better educated than the men. The women, on average, first engaged in criminal activity later in life compared to the men, but both groups reported engaging in violent crimes before committing property crimes.

Given these differences, we might expect to find differences in self-reports of participation and frequency.

Participation Rates

Participation is defined as self-reported activity during the measurement period in any of the crime types studied. In discussing the factors associated with crime participation, Visher and Roth (1986:249) regard as "striking" the consistency with which

> male participation in offending exceeds female participation in offending, regardless of data source, definition of 'offender', culture, or measure of participation.

Reviewing over two dozen studies of general population samples, the authors conclude that male participation rates are generally three to five times the female rates. Importantly, none of these studies is of female prisoners and it is therefore not surprising that these gender-specific findings cannot be generalized to women in prison.

One description of participation is a "variety" measure of the number of different crime types for which respondents reported activity. The variety description, presented in Table 6.8, indicates that nearly 41% of women reported committing only one type of crime during the measurement period compared with 34% of men.[5] Although the variety of activity is very similar overall, the proportion of men who reported activity in four or more types of crimes was almost twice that of women (10.3% compared to 5.6%). The similarity is more obvious when observing the mean number of crime types offenders reported, as presented in the last row in Table 6.8: the "mean variety score" for women is 1.2 crime types compared to 1.3 for men. This finding of similarity in the variety of crime participation is consistent with the work of Hindelang (1971) and Cernkovich and Giordano (1979).

Visher and Roth (1986) concluded that male participation rates are generally three to five times the female rates. Importantly, none of these studies is of female prisoners and it is therefore not surprising that these gender-specific findings cannot be generalized to women in prison.

TABLE 6.8
VARIETY OF CRIME TYPE PARTICIPATION: WOMEN AND MEN

VARIETY OF CRIME PARTICIPATION	WOMEN (n=128)	MEN (n=872)
Reported No Participation in Any of the Eight Study Crimes	22.8%	30.0%
Participated in One Type of Crime	40.9	34.0
Two Crime Types	15.7	15.4
Three Crime Types	15.0	10.3
Four or More Crime Types	5.6	10.3
TOTAL	100.0	100.0
Variety Mean (all offenders)	1.2	1.3

A portion of both samples did not report activity in any of the crime types studied (22.8% of the women and 30% of the men) and are thus considered "inactive" offenders. Since the respondents were serving time for crimes that would have been committed during the measurement period,[6] we examined the most serious arrest charge leading to the current incarceration for these "inactive" offenders. This information was obtained from official prison files and was collected on over half of the men and about 90% of the women.

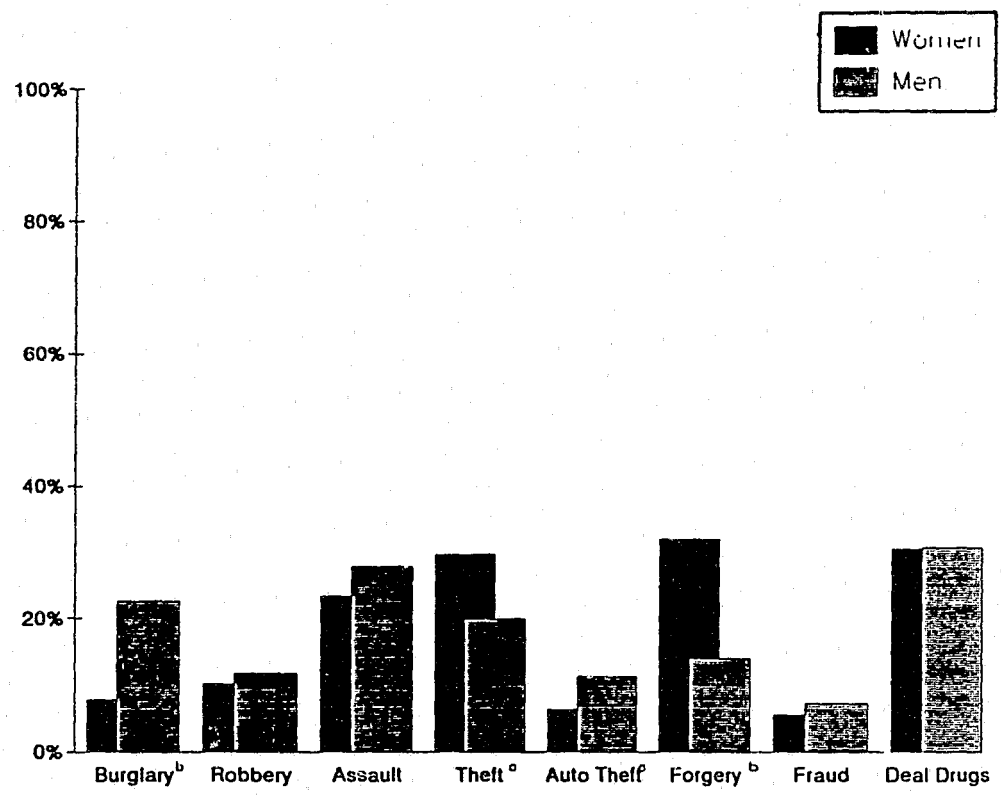
Over half of the inactive men (62%) were arrested for crimes not studied: arson, drug possession, kidnapping, murder, sex offenses, trespassing and weapons charges. However, nearly 20% of the inactive men were arrested for the study crimes of burglary or robbery. Twenty-nine percent of the women who did not report participation in any of the study crimes had been arrested for murder, which could have been construed as assault since one of the items in the questionnaire asked if "anyone might have died" from the injuries sustained from the assault. Over 20% (22.6%) of the inactive women were arrested for forgery and 12.9% were arrested for theft (data not presented).

While false arrest and imprisonment are possible explanations of the high rate of respondents reporting no activity in study crimes, we think rates of activity probably would have been higher in both samples if respondents had been interviewed and the researcher made the "active/inactive" decision. Conversations with inmates revealed: (1) few claims of false arrest and (2) some confusion about the *behavior* they admitted (to us) and the crimes defined in the questionnaire. Hence, there may be differences in our operational definitions of some of the study crimes compared to those of respondents. This deserves further attention in future studies of this sort.

Nevertheless, more than two-thirds of both samples reported activity. Figure 6.1 illustrates the participation rates of active women and men across the eight study crimes. Participation in burglary, theft and forgery was significantly different across genders. Nearly three times as many men compared to women reported committing a burglary (22.6% and 7.8%, respectively).[7] By contrast, far more women reported activity in both theft and forgery. These gender differences parallel the conviction crime data already presented.

Participation in burglary, theft and forgery was significantly different across genders. Participation rates for robbery, assault and drugs were very similar across gender.

Participation Rates: Women and Men



a: p<.05
b: p<.001

Participation rates for robbery, assault and drugs were very similar across gender. Robbery activity for women, however, appeared to be different from that described by men. For example, none of the female robbers reported committing assaults while nearly half (48.5%) of the male robbers

reported assault.[5] Also, half of the active female robbers also reported committing thefts compared to 36.6% of the men (data not presented). Women were more likely to "rob people" than any of the businesses noted in the questionnaire, yet only one woman carried a weapon (a handgun). Half of the women robbed people they knew compared to 19.8% of the men, and 80% committed robberies primarily during the day compared to 24% of men. Nearly two-thirds (60%) of the women did robberies "with others" compared to 45% of the men. Follow-up interviews with the women and some of the men reporting robbery activity would have been useful to better understand these differences. In particular, female robbery may be linked in some instances to prostitution (e.g., women stealing money from their "tricks"), and these activities might not be perceived by the women as "stranger" crimes.

Similarities in assault participation correspond to similarities in the proportion of men and women arrested as a percentage of total arrests for each gender (Simon, 1975:Table 4.6). However, the participation rates differ sharply from conviction charges (Table 6.1), which is interesting since gender differences in conviction charge generally correspond with the self-reported participation rates. The questionnaire refers to fights with family members, and one-third of the women, compared to one-tenth of the men, reported that they included family violence in answering the assault questions. This could mean that a larger proportion of the assaults reported by females, compared to male assaults, were domestic disputes or, that more women than men considered intrafamilial violence to be an assaultive crime and reported it as such.

Participation in drug dealing is very similar across gender although the type of drug dealt varied. Nearly three times as many women than men dealt heroin (35.9% compared to 12.5%), a statistically significant difference ($p=.0002$; $X^2=14.19$). Although differences were not significant, a larger proportion of women than men dealt crystal (28.2% compared to 18.9%) and cocaine powder (74.4% compared to 68.9%), but fewer women than men dealt marijuana (51.3% compared to 64.0%). Twenty percent of each group reported dealing crack cocaine.

Participation in drug dealing is very similar across gender although the type of drug dealt varied. Nearly three times as many women than men dealt heroin.

Differences between men and women in theft and forgery rates were in the expected direction with significantly more women reporting participation in these crimes. During interviews with 20 female respondents, many indicated considerable familiarity with retail businesses. Many had held jobs "behind the counter": they knew how a bogus credit card or check was identified, and they knew how much time they had (to commit forgeries or frauds) between the stealing of checks or credit cards and the theft being reported to the credit card company. They also knew how retail businesses attempted to stop shoplifting and sometimes the women's tactics reflected this knowledge.

Given the importance of practical knowledge or familiarity with the milieu in which they commit crimes, it is not surprising that auto theft among women had a low participation rate--a rate almost half that reported by men. These findings regarding theft, fraud and auto theft reflect, at least in part, cultural influences on the differential criminal behavior of men and women.

More women than men participated in theft and forgery. During interviews with 20 female respondents, many indicated they knew how much time they had (to commit forgeries or frauds) between the stealing of checks or credit cards and the theft being reported to the credit card company.

Just as we might expect to find cultural influences related to gender differences, we would likely find similar forces operating *within* genders to account for racial differences. When female participation rates were disaggregated by race, we found few statistical differences (see Table 6.9). Whites were significantly less likely to report participation in burglary, theft or motor vehicle theft than blacks and Hispanics ($p = .01$; $X^2 = 9.14$), and blacks were more likely to report robberies and assaults, but not significantly ($p = .34$). To the extent that differential cultural and structural "conditions create patterns of choices" (Collins, 1986:524), we expect to find different patterns of criminal behavior.

TABLE 6.9
FEMALE PARTICIPATION RATES BY RACE

CRIME TYPE	BLACKS (n)	WHITES (n)	HISPANICS (n)
Burglary, Theft or MVT	42.9% (15)	23.8% (15)	56.0% (14)
Robbery or Assault	40.0 (14)	25.4 (16)	32.0 (8)
Forgery or Fraud	25.7 (9)	34.9 (22)	32.0 (8)
Drug Dealing	34.3 (12)	27.0 (17)	40.0 (11)

Note: Crime categories were combined because of the small sample size.

Certain cultural/structural differences for the female prisoners were remarkable: 3.7% of the black women surveyed ($n = 1$) reported full-time employment during the year prior to incarceration compared to 47.8% of the whites and 35.7% of the Hispanics. One black woman reported part-time employment during the measurement period compared to 10.6% of the whites (no Hispanic women reported part-time employment). Half of the white women reported finishing high school

Half of the white women reported finishing high school compared to 32.4% of black women and 26.3% of Hispanic women.

compared to 32.4% of black women and 26.3% of Hispanic women.

In sum, of eight crime types studied, participation rates in three of the crimes (burglary, theft and forgery) varied significantly across genders, and burglary and theft varied across women of different races. Gender similarities are equally interesting: women were no more or less likely to report robbery, assault, fraud or drug activity than were men. While not significantly different, women were notably less likely to engage in auto theft compared to men.[9] Prevalence studies of the National Youth Survey sample (Elliott et al, 1983; Elliott, Huizinga and Menard, 1989) indicate substantial variation in criminal participation between men and women, as do other studies using non-prisoner samples (for example, Gold, 1966; Cernkovich and Giordano, 1979; Tittle, 1980; Hindelang, Hirshi and Weis, 1981; Shannon, 1982; Farrington, 1983; Tracy, Wolfgang and Figlio, 1985), reflecting important differences in offending patterns between the general population and prisoners.

Frequency Rates

Frequency of crime activity was measured for respondents who reported participation in a crime type. The frequency rate while free in the community was then annualized to obtain lambda (λ). This is the rate of the offender's activity during the year prior to the current incarceration applied over the entire measurement period even if that offender, in reality, did not have the opportunity to commit crimes the entire period. See Chapter Two for a full explanation of λ.

The Distribution of Activity: The first question we consider is whether the distribution of self-reported offending rates across the sample of women had the same skewed distribution as first found for male prisoners by Rand Corporation researchers (Peterson and Braiker, 1980; Chaiken and Chaiken,

FIGURE 6.2

THEFT DISTRIBUTION:WOMEN
(n=30)

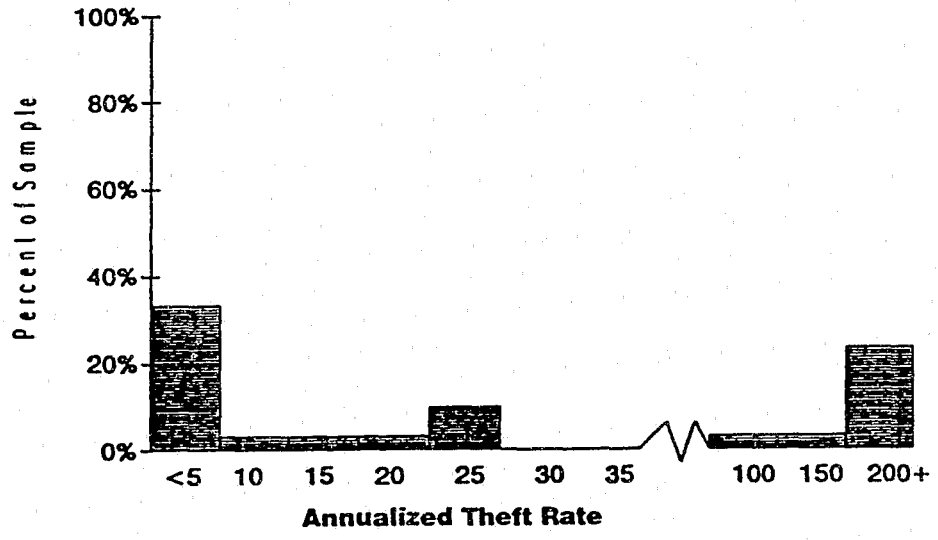
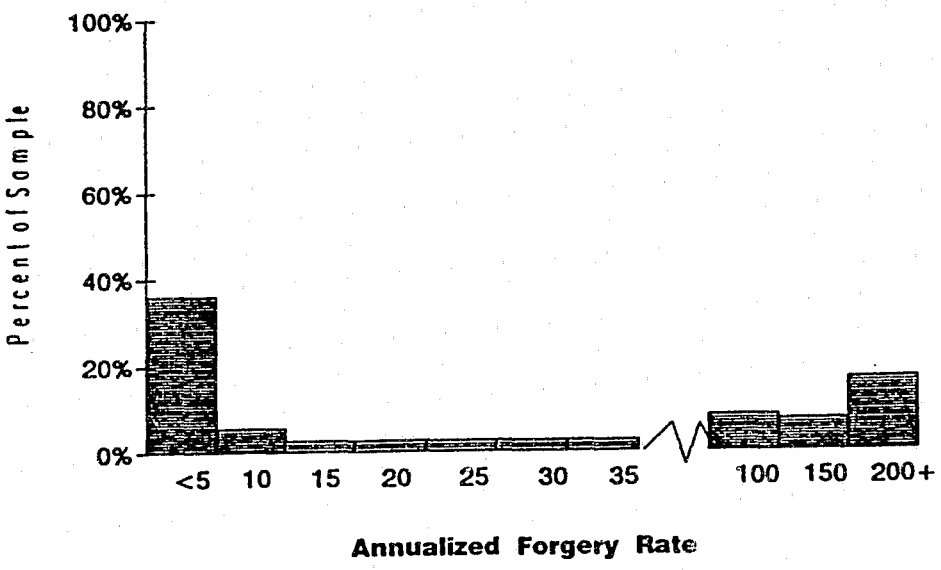


FIGURE 6.3

FORGERY DISTRIBUTION: WOMEN



1982) and later replicated in other sites (Mande and English, 1988; Horney and Marshall, 1991). Although the sample sizes for individual crime types were small, we found the familiar distributions. Figures 6.2 and 6.3 show the distributions for theft and forgery.

Over 35% of the women reporting thefts had λ estimates for theft of five or fewer per year while just under 25% of the group had an estimated rate of 200 or more. Annualized forgery rates look similar with nearly 40% of the sample reporting five or fewer forgeries annually and just under 30% of the group reporting λ rates of more than 200 annually.[10] This pattern of activity was reported for each of the eight crime types studied.

Table 6.10 describes, for male and female prisoners, the distributions of offending frequencies for each of the study crimes. There appears to be considerable variability in crime frequency across gender, but the variation *within* each cohort is so great that it is difficult to determine when differences between males and females are significant.

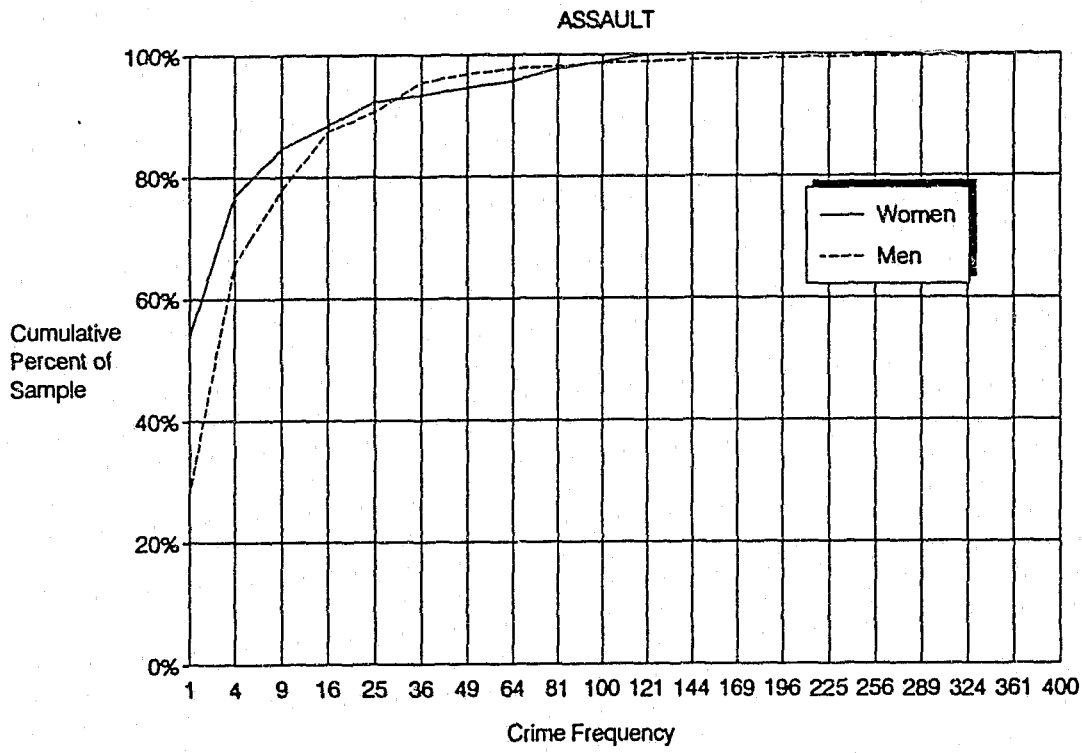
TABLE 6.10
TESTING DIFFERENCES IN LAMBDA DISTRIBUTIONS: MEN AND WOMEN

	WOMEN (n)	MEN (n)	MOST EXTREME DIFFERENCE	z	p*
Burglary	9	181	-.23	.67	.760
Robbery	9	90	-.256	.73	.650
Assault	26	216	-.293	1.40	.037
Theft	30	162	.254	1.30	.076
MVT	7	89	-.234	.60	.868
Forgery	36	113	.243	1.27	.079
Fraud	7	58	.271	.68	.749
Drug Dealing	31	233	.198	1.04	.234

*p is set at .10 due to the small sample of women and our reluctance to make a Type II error.

FIGURE 6.4

Cumulative Percent Distribution: Men and Women*



*These distributions were different at the .10 level of statistical probability.

Men: N=216
Women: N=26

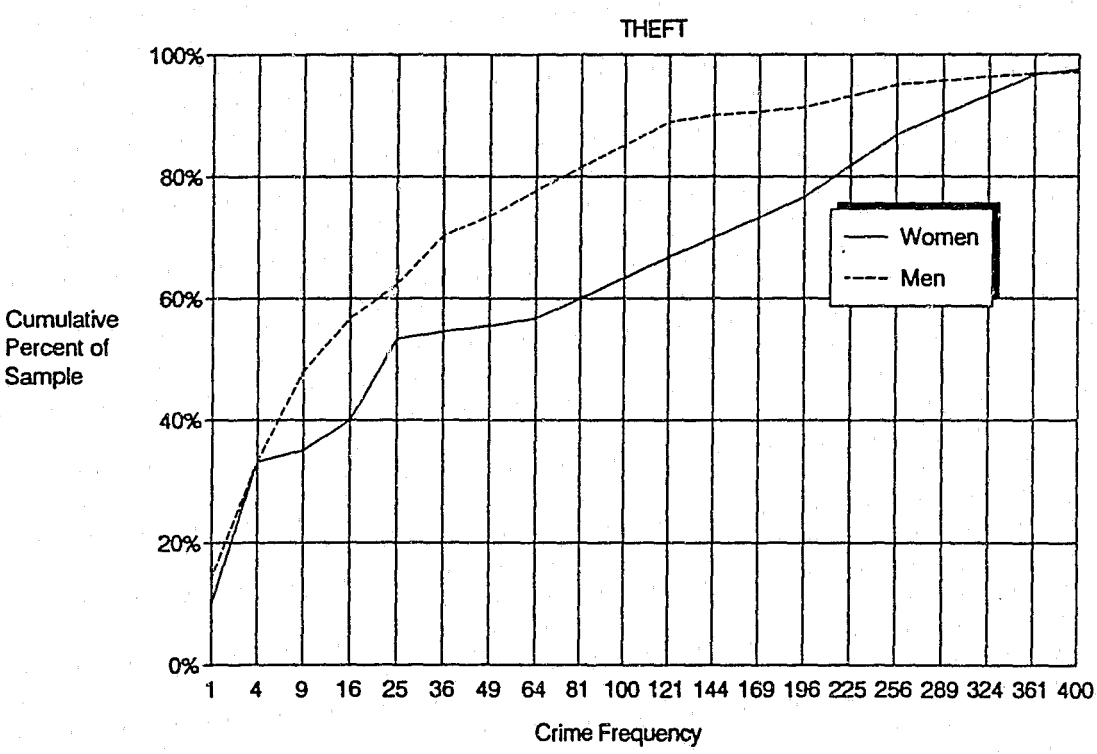
According to the Kolomogorov-Smirnov test of the cumulative distributions, we found significant differences in aggregate lambda estimates between women and men for three crime types: assault, theft and forgery. Following the advice of Fox and Tracy (1988), we graphed the distributions to better observe the differences.

The differences between the assault distributions are clearly at the low-frequency end of the distribution (note the horizontal axis depicts the square root of the lambda rate to contract the size of the intervals as data values increase, making differences easier to observe). A much larger share of the female sample had lambda estimates of one (1) compared to males (55% compared to almost 30%, respectively). For both groups, assault was a low frequency crime relative to the other study crimes (the median assault lambda for men was 2.5; for women it was 1.0, as discussed above). The difference across genders occurs because men are significantly more likely to report more than one assault during the study period.

For both groups, assault was a low frequency crime relative to the other study crimes. The difference across genders occurs because men are significantly more likely to report more than one assault during the study period.

FIGURE 6.5

Cumulative Percent Distribution: Men and Women*



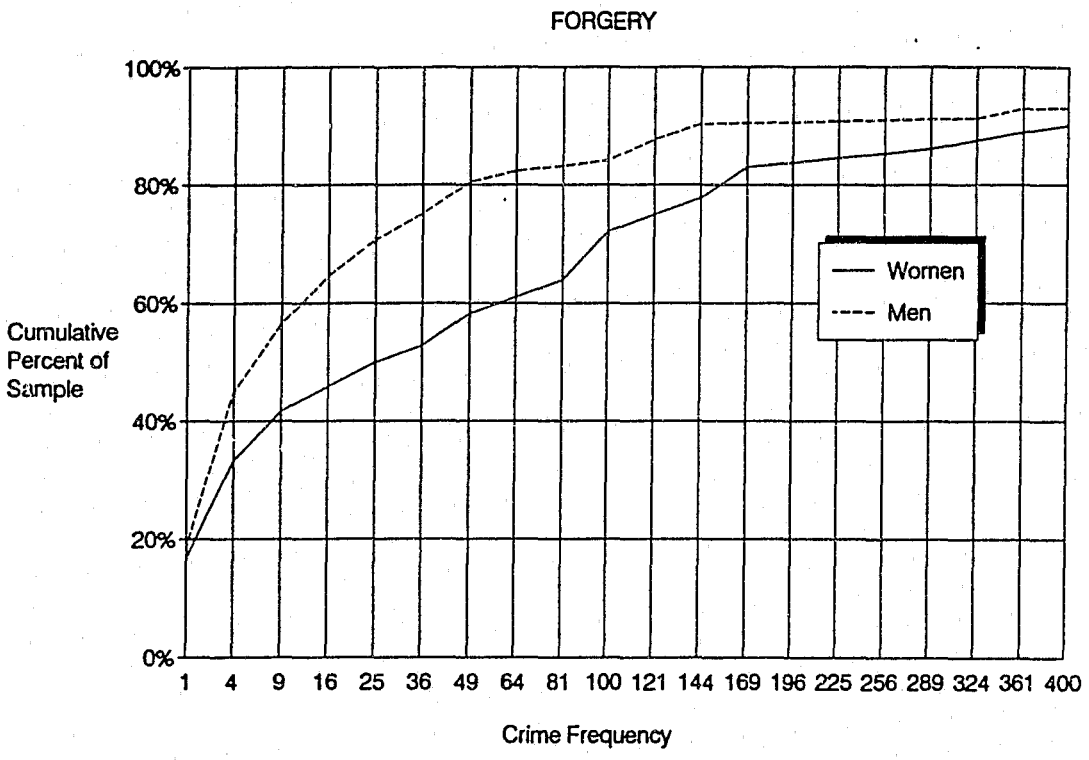
*These distributions were different at the .10 level of statistical probability.

Men: n=162
Women: n=31

Figure 6.5 reveals differences unlike those we observed for assault. The distribution of theft lambdas for the female sample indicates significantly more theft activity by this group compared to the men. Only 10% of the men had lambda estimates of more than 100 thefts compared to 30% of the women.

FIGURE 6.6

Cumulative Percent Distribution: Men and Women*



*These distributions were different at the .10 level of statistical probability.

Men: n=113
Women: n=37

Differences in the forgery lambda distributions across men and women, depicted in Figure 6.6, were very similar to those found for theft lambdas. Compared to men, a larger segment of the female cohort was responsible for the total number of offenses committed. The median annualized forgery rate for women was three times that of men: 36 compared to 8.

In sum, the lambda analyses revealed interesting differences. Women who committed assault reported infrequent activity; significantly less frequent than men (although assault was a relatively low rate crime for men, also). The differences in the theft and forgery frequency distributions follow differences found in participation for each of these crimes: more

The differences in the theft and forgery frequency distributions follow differences found in participation for each of these crimes: more women reported participation, and those who participated in theft and forgery did so at generally higher frequency rates compared to men.

women reported participation, and those who participated in theft and forgery did so at generally higher frequency rates compared to men.

It is not hard to speculate the cultural forces which underlie these findings. Unfortunately, review of the relevant literature is beyond the scope of the present work. Below, we explore differences across gender measured by questionnaire items pertaining to attitudes about crime, motivations, drug use and childhood experiences. These data are presented to describe some differences and similarities between women and men, but these items have not been tested for content or face validity.

Other Comparisons Between Women and Men

The questionnaire asked all respondents, "What were the main reasons that you first got involved in crime?" The item then gave twelve possible answers (plus "Other"), and respondents were instructed to choose all that applied. Overall, differences were minimal, as is apparent in the ranking of the items. Table 6.11 ranks the twelve items from the one selected by the largest proportion of respondents ("Friends got me into it") to the items least often picked (reputation/revenge/temper).

TABLE 6.11
REASONS FOR FIRST CRIME: RANKED

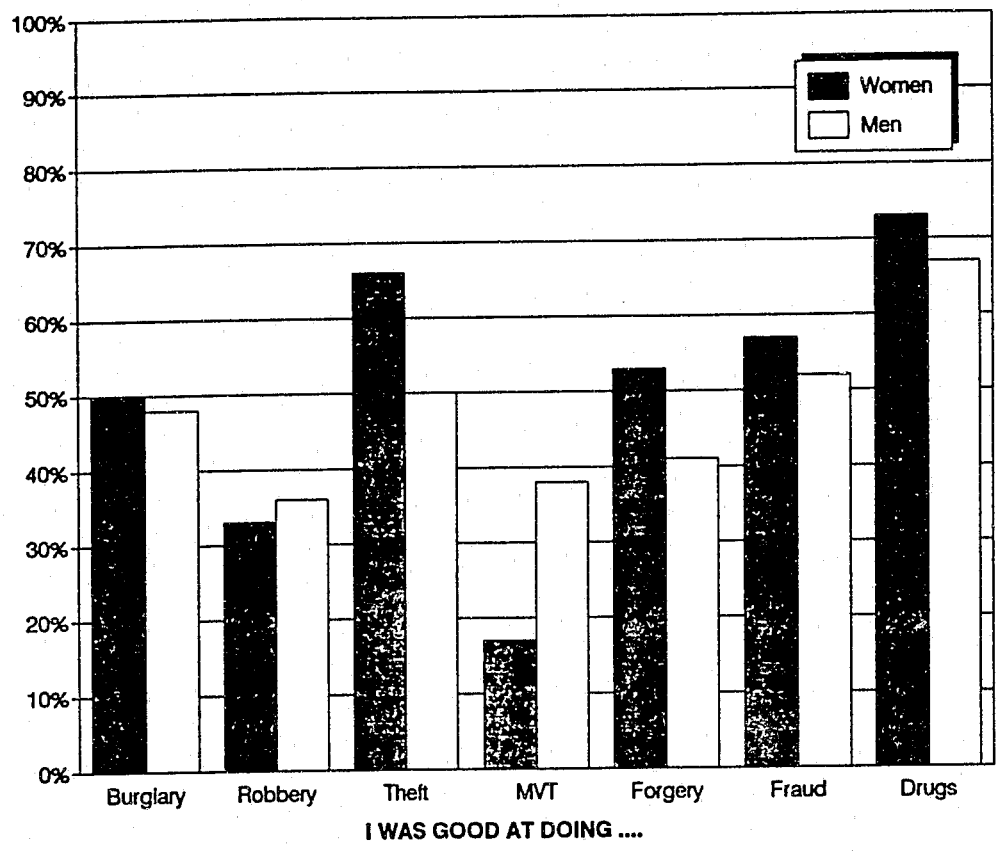
MEN	WOMEN
Friends	Friends
Excitement	Money to Survive
Money Nice Things	Money Nice Things
Money to Survive	Excitement
Drunk	Money for Family
Money for Drugs	Money for Drugs
Money to get High	Money to get High
Money for Family	Temper/Way of Life (tied)
Just a way of life	Drunk
Reputation	Revenge
Temper/Revenge (tied)	Reputation

Of the twelve items, the largest gender differences occur for items related to money needs. Women were more likely ($p = .0007$) to report their first involvement in crime was because they "Needed money to support my family": 22.7% compared to 10.6%, respectively. Although the difference was not significant at the $p = .01$ level,[11] about one-fifth of the women in the sample (21.1%) said they first did crimes to "To get money for drugs," compared to 13.6% of men. Men were more likely

(p = .0009) to first become criminals because "I was drunk" (20% compared to 7.8%).

FIGURE 6.7

PERCENTAGE OF RESPONDENTS WHO SAID THEY DID THE SURVEY CRIMES BECAUSE THEY WERE GOOD AT IT



To tap more current motivations, the questionnaire asked for reasons respondents committed crimes during the measurement period. "I was good at it" was the reason given by a majority of respondents for a majority of crimes. Figure 6.7 displays the results.

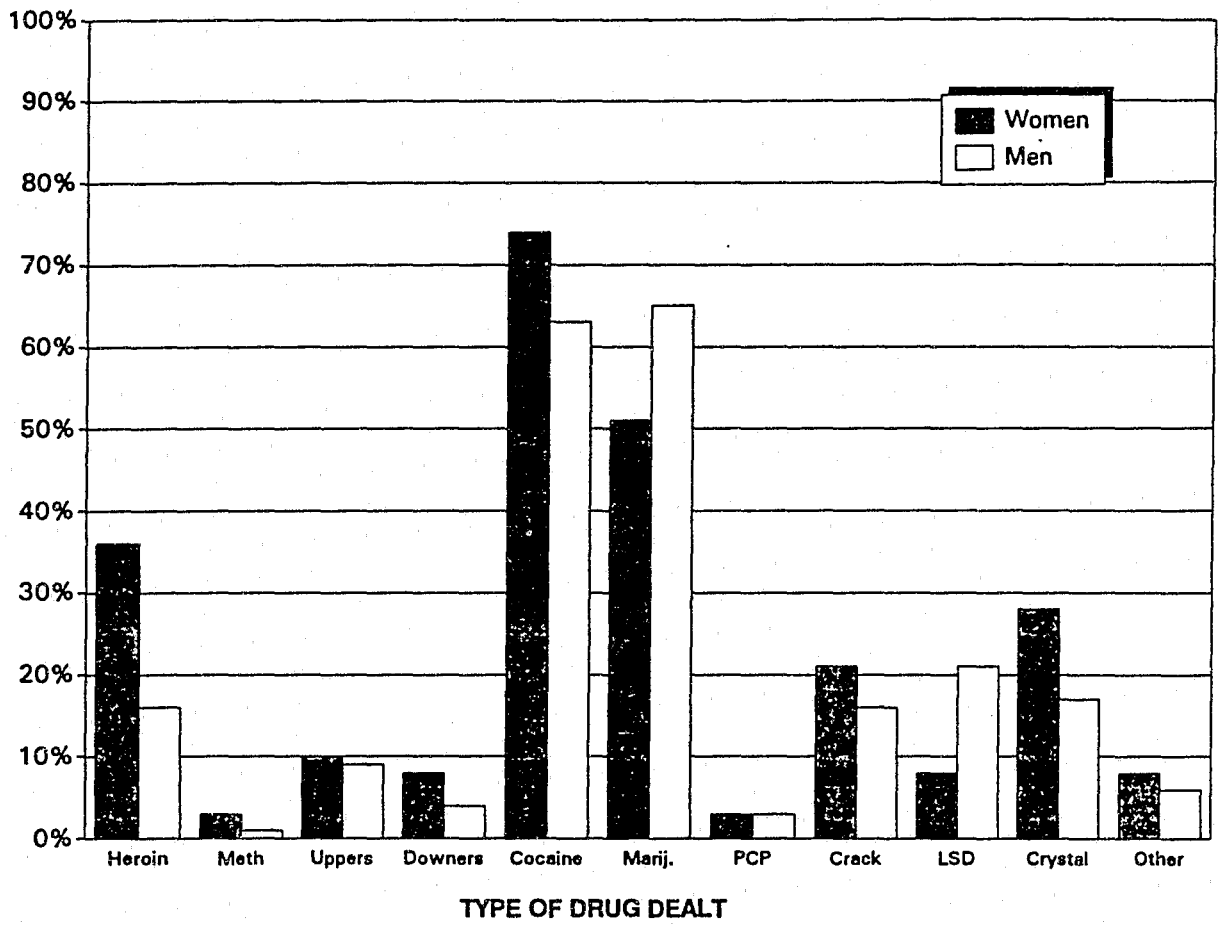
Women were significantly more likely to report that they were good at theft; men were significantly more likely to report skill in the area of auto thefts. These competence levels paralleled participation rates and likely reflect differential degrees of comfort experienced by women and men in these domains. Drug dealing was apparently an activity in which both genders felt skillful since the largest proportion of both groups reported proficiency in this crime type. Except for theft and auto theft, there were no gender differences in this "confidence" measure across crime types.

Women were significantly more likely to report that they were good at theft; men were significantly more likely to report skill in the area of auto thefts. These competence levels likely reflect differential degrees of comfort experienced by women and men in these domains. *Cocaine and marijuana dominated the type of drug sold according to Denver's Drug Use Forecasting (DUF) Project, reflecting the proportional exploitation of these drugs on the street (Division of Criminal Justice Bulletin).*

Given the relatively high proportion (approximately 70%) of both samples that reported adeptness at drug dealing, we examined the types of drugs sold by self-reported dealers during their time on the street preceding this incarceration. As depicted in Figure 6.8, cocaine, and marijuana dominated the type of drug sold, reflecting the proportional exploitation of these drugs on the street (Division of Criminal Justice *Bulletin*, 1991). Slightly more women dealt cocaine while more men dealt marijuana, but the differences were not statistically significant ($p = .45$ and $p = .12$, respectively).

FIGURE 6.8

PROPORTION OF INMATES DEALING DIFFERENT DRUG TYPES, BY GENDER



Nearly three times as many women compared to men dealt heroin: 35.9% versus 12.5% ($p = .0002$). This finding is consistent with local Drug Use Forecasting data where three times as many

female arrestees tested positive for heroin compared to men (6% versus 2% in the second quarter of 1990). On the other hand, nearly three times as many men sold LSD compared to women (23.5% and 7.7%, respectively; p = .02). We found no other statistical differences in type of drug dealt.

There were some gender differences in reasons for selling drugs (data not illustrated). Two-thirds of the women (67.6%) reported they dealt drugs to support their family compared to 36.2% of men. Likewise, women were more likely to sell drugs in order to buy drugs (71.1% compared to 56.6%). Nearly all of the women and most of the men reported making "good money selling drugs": 92.3% compared to 81.9% of men.

Two-thirds of the women (67.6%) reported they dealt drugs to support their family compared to 36.2% of men.

TABLE 6.12
GENDER DIFFERENCES IN PERCEIVED CHANCE OF ARREST FOR DRUG CRIMES
(n = 302)

	CHANCE OF ARREST			
	LOW	SOME	HIGH	CERTAIN
WOMEN	28.2%	30.8%	30.8%	10.3
MEN	44.9	36.5	14.4	4.2

There appears to be some variation across gender in perceived chance of arrest. As indicated in Table 6.12, nearly half the women (41.1%) believed their chances of arrest for drug crimes was high or certain compared to 18.2% of the men ($X^2 = 10.5; p = .014$).

In summary, the prisoner self-report data indicate remarkable similarities across genders. For the violent crimes of robbery and assault, participation rates were not statistically different between men and women. Theft and forgery participation rates were significantly different, with the female rate higher than the male rate. Drug participation rates were identical across gender. As for crime frequency, female prisoners had higher λ estimates for theft and forgery, and men had higher assault rates, but frequencies for the other five study crimes were not significantly different. This similarity is noteworthy for characteristically male crimes, like robbery.

However, there are some differences in male and female crime patterns which may be related to economic and family differences rooted in cultural patterns (Smart, 1976). For example, nearly three times as many men reported burglary participation (the largest

In summary, there are some differences in male and female crime patterns which may be related to economic and family differences rooted in cultural patterns (Smart, 1976).

gender difference), and twice as many men compared to women stole vehicles. More women reported forgery and theft. Frequency rates were similar except for assault (men reported more assaults during the study period), theft and forgery (women reported more frequent activity in these crimes). Drug dealing patterns were fairly similar except that three times as many women than men sold heroin, and three times as many men than women sold LSD.

Gender differences reported here are important and deserve further attention for they suggest differential criminal justice and crime prevention intervention strategies deserve serious consideration. Still, from our perspective, the self-reported crime data presented in this chapter confirms the overall similarities in participation and frequency across gender among prison inmates,and further underscores the robust nature of prisoner self-reports.

SUMMARY: GENDER DIFFERENCES

Until the current project, studies of prisoners' self-reports of crime have not included women, thereby empirically limiting the generalizability of the findings to men. While some differences were reported, our most significant findings are the many similarities in criminal activity across gender. Importantly, we found the familiar (Chaiken and Chaiken, 1982; Mande and English, 1988; Horney and Marshall, 1991) skewed offending rates with most female prisoners reporting very few crimes while some reported extremely high rate activity.

A larger proportion of the female sample reported participation in the study crimes: 77.2% of the women compared to 70% of the men. More women than men reported committing only one type of crime (41% compared to 34%, respectively), and a larger share of men reported committing more than four different types of crimes (10.3% of men and 5.6% of women). To the extent that variety is an indicator of "entrenchment" in a criminal lifestyle, more men met this criterion than women.

Auto theft among women had a low participation rate--a rate almost half that reported by men. Participation in theft and fraud was reported by a notably larger segment of the female sample. These findings regarding auto theft, theft and fraud may reflect cultural influences on the criminal behavior of men and women. We found evidence that studying race, within genders, would be a useful approach for exploring cultural influences because of differential marginalization reflected in varying educational levels and employment histories (Carlen, 1988).

Frequency rates differed significantly for theft and forgery with women reporting higher rates. Lambda rates for the five other crime types were not significantly different.

The sample of women tended to be older at the time of the study (this was partially the result of differences in the sampling plan) and better educated than the men. The women, on average, engaged in criminal activity later in life compared to the men. Concerning their current conviction crime, women were more likely to be doing time for homicide or theft, while the men were more likely to have been convicted of burglary.

ENDNOTES--CHAPTER 6

1. As discussed in Chapter Three, men enter the Colorado Department of Corrections at a rate ten times that of women. In the tradition of prisoner self report studies (Chaiken and Chaiken, 1982; Peterson, Braiker and Polich, 1981; Mande and English, 1988; Horney and Marshall, 1991), our objective was to obtain an intake cohort to represent the group of offenders recently sentenced by judges. This was not possible with the female sample because of their slow entry into the system. Instead, a random sample of women were surveyed in groups of 30-50 on three different occasions during 1989. At the time of the study, the women's facility housed 110 residents.

2. These conviction distributions for women are not unlike that found by the Bureau of Justice Statistics Survey of Inmates in State Correctional Facilities.

3. Note that one of the cells in the table referred to has a frequency of 4. According to Siegel and Castellan (1988), this test requires that no fewer than 20% of the cells have an expected frequency of <5 and no cell may have an expected frequency of <1. Table 6.1 and Table 6.2 which follows meet these criteria.

4. These figures are much higher than those reported in Chapter 2 (sample representativeness discussion) because those in Table 6.6 were derived from the self report data while those in Chapter 2 came from official records (which is typically based on an offender's self report to a probation officer).

5. See Appendix G for a breakdown of the variety score across crime types for both genders.

6. There are exceptions. For example, a respondent may have committed a crime years before his or her actual arrest for that incident. This occurred in less than ten cases.

7. The following table presents the data for Figure 6.2.

PARTICIPATION RATES: WOMEN AND MEN

	MEN (n)	WOMEN (n)	CHI-SQUARE	p
Burglary	22.6% (197)	7.8% (10)	14.003	.0001
Robbery	11.7 (102)	10.2 (13)	.137	.7110
Assault	27.8 (628)	23.4 (30)	.086	.3511
Theft	19.9 (173)	29.7 (38)	5.789	.0161
MVT	11.2 (97)	6.3 (8)	2.393	.1219
Forgery	13.9 (121)	32.0 (41)	25.495	.0000
Fraud	7.2 (63)	5.5 (7)	.297	.5859
Drug Dealing	30.6 (266)	30.5 (39)	.0000	1.000 0

8. The questionnaire asked about assaults as a crime different from--not necessarily in conjunction with--a robbery.

9. The lower the number of cases, the less power a test has to determine statistical differences. Only eight women reported auto thefts.

10. These theft and forgery rates are among the highest obtained from prisoner self-report studies. Data from the Second Rand Survey (Chaiken and Chaiken, 1982) of California prisoners indicate that thieves who reported over 200 thefts constituted 17% of the sample (the three-state total was 15%). For forgers, those reporting more than 100 crimes (data on more than 200 crimes were not published) constituted 13% of the California prisoners (the three-state total was also 13%).

11. The large number of cases considerably increases the power of statistical tests. We chose .01 as the probability level for these comparisons to avoid Type 1 errors.

CHAPTER SEVEN

COMPARING CRIME RATES ACROSS THREE QUESTION FORMATS

Lambda estimates are not a literal reflection of offenders' reports of activity, as discussed in Chapter Two. Our purpose here is not to compare lambdas per se, but rather the root questions that tap an offender's "best guess" of his or her activity during the measurement period. In this chapter, we examine estimates of self reported crime rates obtained from three question formats and assess their relative difference. Two questions are addressed: are there differences in crime rates obtained from varying question formats and, if so, how do the rates differ across formats?

The Measures

Ideally, questionnaires with varying question formats would be tested on different samples. Resource limitations precluded this design in the present study. Three question formats were placed in the set of questions pertaining to each of the eight study crimes, and these were compared.

The first question format, which we refer to as the "Product" variable, is the crime frequency generated by multiplying the typical number of crimes per month by the usual number of months the offender was active in that crime type. The second question format uses an "Ordinal" level question to ask the respondent to indicate the appropriate range of activity. The third format, a "Continuous" variable, asked the respondent to estimate, "In all...", the total number of crimes of that type he or she committed during the measurement period. The questions were usually separated by at least one page. The boxes below illustrate the questions used for burglary.

Product:
Look at the street months on the yellow calendar. During how many of these months did you do burglaries?

_____ Number of months

How many burglaries did you usually do per month? _____ per month

Ordinal:

In all, during the street months on the calendar, how many burglaries would you say you did?

- ☐ 1-5 burglaries
- ☐ 6-10 burglaries
- ☐ 11-15 burglaries
- ☐ 16-20 burglaries
- ☐ 21-30 burglaries
- ☐ More than 30 burglaries

Continuous:

In all, how many burglaries do you think you did during the street months on the yellow calendar?

____ burglaries

Each of these questions produces a typically skewed crime rate distribution (see Figure 3.2), although the ordinal format generally obtains a distribution that shifts to the left compared to the other two questions. For example, of the group of 872 men, nearly 200 reported committing burglary. In responding to the ordinal question, 58% of the group reported between 1-5 burglaries. Effective rates at the 60th percentile were 8.0 and 5.2 for the product and continuous formats, respectively. The Wilcoxon Signed Ranks Test was used to test the direction and relative magnitude of differences between responses obtained from two measures (Siegel and Castellan, 1988). This nonparametric test examines the hypothesis that there are no differences between two paired populations of ordered-metric scores. In the case of ties, average ranks are assigned and the sums of the ranks for positive and negative differences are calculated (Norusis, 1988). Since we are using the Wilcoxon Z-score to test differences, we display the data in a manner that parallels its calculation by presenting the percentage of cases that "tied." Also, by examining ties, we can assess the extent to which different question formats produced similar responses across cohorts, i.e., the proportion of the groups for which the measures appear reliable.

The Cohorts

Although the questions addressed here do not pertain to methods of data collection (the focus of previous chapters) we analyzed the format questions for four of the cohorts studied in 1988-89 to assess the reliability of the findings across the groups. The largest sample is the group of 872 men; another 215 men took the shortened version of the questionnaire; 146 men participated in the survey anonymously and 128 women confidentially completed the longer version of the questionnaire.

What Did We Expect To Find?

Two question types (Ordinal and Continuous) are direct estimates of total activity, so we would expect similarities between frequency distributions obtained from these two question formats. After all, the questions are very similar and are located within a page or two of each other. The Product question does not *directly* form a number that reflects total activity during that period. Discussions with inmates indicated that many (but not all) understood that the questions would generate a frequency, but nevertheless the Product format is quite different from the direct estimates. We would expect the Product question to yield responses that are more different from responses to the direct questions than these latter responses are from each other. The Product question is of particular interest because it is the format typically used in lambda estimates.

Rolph and Chaiken (1981) explored this issue using the Rand self report data, and found that continuous questions yielded higher estimates of crime rates than did questions with category formats. Also, given the work of Elliott et. al. (19--) and Bachman and O'Malley ("When Four Months Equal a Year" [1980]), we expected estimates based on shorter increments of time ("usual month" versus "In all...") to be particularly vulnerable to telescoping. Telescoping would result in inflated estimates. The shorter the interval, the greater the possible distortion when the numbers are annualized. For seven of the eight crimes, the Product variable asks about monthly activity, but the drug crimes question is in weekly intervals. We would expect responses to the Product questions generally, and for drugs in particular, to generate responses greater than the other two question formats which refer not to one month or one week but to the overall active portion of the study period.

Finally, we expected our findings to be consistent across the cohorts who participated in the paper/pencil questionnaire.

Findings: Differential Responses Across Question Formats

Are There Differences Across Question Formats?

Comparing the Product and the Continuous formats, and using the proportion of cases which had tie scores as the point of departure, the Wilcoxon tests indicate significant differences 45-55% of the time across the eight crime types studied (31.3% of the time when the four drug cells are

excluded). Table 7.1 presents, for each cohort and study crime, the percent of cases that tied across question formats. Footnotes in the cells indicate when significant differences were found.

TABLE 7.1
PERCENT OF TIED CASES: PRODUCT COMPARED TO CONTINUOUS QUESTIONS METHOD/SUBGROUP

	CONFIDENTIAL (n)	SHORTENED QUESTIONS (n)	ANONYMOUS (n)	WOMEN (n)	RANGE OF TIES FOR CRIME TYPES
Burglary	55.8%[c] (181)	42.2% (45)	48.6%[a] (35)	55.6%[a] (9)	42.2%-55.8%
Robbery	59.6 (89)	55.6 (18)	100.0 (9)	55.6 (9)	55.6-100.0
Assault	54.6 (218)	41.5 (65)	40.4[c] (47)	42.3 (26)	40.4-54.6
Theft	47.2[c] (159)	20.5 (44)	39.3 (28)	27.0 (26)	20.5-47.2
MVT	67.4 (89)	56.2 (32)	70.6[a] (17)	42.8 (7)	42.8-70.6
Forgery	44.0[b] (109)	35.0[a] (20)	68.7 (16)	44.1[c] (34)	35.0-68.7
Fraud	39.7[b] (58)	38.4 (13)	16.7 (6)	28.6 (7)	16.7-39.7
Drug Dealing	8.2[c] (219)	0 (71)	2.4[c] (42)	0 (27)	0-8.2
RANGE OF TIES ACROSS COHORTS	8.2-67.4%	0-56.2%	2.4-100.0%	0-55.6%	0-100.0%

*The Wilcoxon Signed Ranks test was used to indicate significant difference between the crime rates generated by the two question formats as follows: [a]=p<.10, [b]=p<.05, [c]=p<.01. See Appendix D for complete information.

Offenders who commit drug crimes have by far the lowest tie rate ranging from a high tie rate of 8.2% of men in the long questionnaire compared to a low of no cases matching for the shortened questionnaire and the female cohorts. This suggests that high activity will lead to fewer consistent (i.e., tied) responses across question formats, reflecting the high variation and, consequently, decreased reliability, in measuring higher frequency activity (Huizinga and Elliott, 1988). Overall, as indicated by data in Appendix D, about half the time (44% of the 32 cells) the Product responses were greater than the Continuous responses, and half the time (56%) the opposite was true.

TABLE 7.2
MEDIAN CRIME RATES ACROSS TWO QUESTION FORMATS
(Confidential Men, n=872)

CRIME TYPE	CONTINUOUS	PRODUCT
Burglary (n=191)	3.0	4.0
Robbery (n=100)	2.0	2.0
Theft (n=167)	8.0	7.5
MVT (n=96)	2.0	2.0
Forgery (n=115)	5.0	6.0
Drug Dealing (n=233)	200.0	60.0

Exploring responses from men surveyed confidentially, Table 7.2 compares the medians for six crime types obtained from the Continuous and Product formats. Differences in the median rates are negligible except for burglary ($p<.005$) and drugs ($p<.001$), where the Continuous question yielded, respectively, a lower median rate in one case and a higher median rate in the other case.

TABLE 7.3
PERCENT OF TIED CASES: PRODUCT (COLLAPSED) COMPARED TO ORDINAL FORMATS METHOD/SUBGROUP

	CONFIDENTIAL (n)	SHORTENED QUESTION (n)	ANONYMOUS (n)	WOMEN (n)	TIE RANGE FOR EACH CRIME TYPE
Burglary	81.8[c] (181)	86.7 (45)	85.7 (35)	77.8 (9)	77.8-86.7
Robbery	80.9 (89)	68.4 (19)	100.0 (9)	88.9 (9)	68.4-100.0
Assault	73.3[a] (217)	73.0 (63)	71.7 (46)	73.1 (26)	71.7-73.3
Theft	69.8[b] (162)	77.3 (44)	67.8 (28)	76.7[b] (30)	67.8-77.3
MVT	85.4 (89)	81.8 (33)	82.3 (17)	42.8 (7)	42.8-85.4
Forgery	83.0[b] (112)	75.0 (20)	88.2 (17)	86.1[b] (36)	75.0-88.2
Fraud	72.9[c] (59)	61.5 (13)	80.0 (5)	71.4 (7)	61.5-80.0
Drug Dealing	51.1[c] (233)	46.5[c] (71)	54.5[c] (44)	48.4[c] (31)	46.5-54.5
TIE RANGE ACROSS COHORTS	51.1-85.4%	46.5-86.7%	54.5-100.0%	42.8-88.9%	42.8-100.0

*The Wilcoxon test indicates, for cases that did not tie, there was a significant difference between the crime rates generated by the two question formats as follows: [a]=$p<.10$, [b]=$p<.05$, [c]=$p<.01$. See Appendix D for complete information.

Comparing the Ordinal and Product formats, with the latter collapsed into the same categories found in the Ordinal formats, we find a higher proportion of tied rates, ranging in general from over

60% to 100% (except for drugs and, when respondents are women reporting, motor vehicle thefts), as is shown in Table 7.3. This level of reliability is not surprising since variability is reduced when collapsed categories are used. The Wilcoxon tests indicate significant differences about one-third (31.3%) of the time (21.4% excluding drugs). In general, as data in Appendix D show, the Ordinal format generated lower responses than the collapsed Product for the majority (72%) of the cells. For drugs, the rates differ for all four groups with the Ordinal format generating higher responses ($p<.01$).

TABLE 7.4
PERCENT OF CASES TIED: ORDINAL LEVEL VARIABLE COMPARED TO CONTINUOUS (COLLAPSED) FORMATS

	CONFIDENTIAL (n)	SHORTENED QUESTION (n)	ANONYMOUS (n)	WOMEN (n)	TIE RANGE ACROSS CRIME TYPES
Burglary	91.4% (181)	91.8% (45)	86.5% (35)	100.0% (9)	86.5%-100.0%
Robbery	89.8 (98)	81.0 (21)	100.0 (9)	90.9 (9)	81.0-100.0
Assault	82.4 (218)	82.5 (63)	78.0 (47)	81.5[a] (26)	78.0-82.5
Theft	83.3 (159)	83.3 (44)	82.1 (28)	75.9 (26)	75.9-83.3
MVT	90.4 (89)	91.2 (32)	95.0 (17)	85.7 (7)	85.7-95.0
Forgery	87.7 (109)	95.2 (21)	87.5 (16)	88.9[a] (34)	87.5-95.2
Fraud	82.0 (58)	92.3 (13)	100.0 (6)	85.7 (7)	82.0-100.0
Drug Dealing	80.2[c] (219)	30.5[c] (71)	72.1[a] (42)	58.1[c] (27)	30.5-80.2
TIE RANGE ACROSS COHORTS	80.2-91.4%	30.5-95.2%	72.1-100.0%	58.1-100.0%	30.5-100.0%

[a]The Wilcoxon test indicates, for the cases that did not tie, there was a significant difference between crime rates generated by the two question formats as follows: [a]=$p<.10$, [b]=$p<.05$, [c]=$p<.01$. See Appendix D for complete information.

As expected, the highest proportion of tied rates were found between the Continuous and Ordinal Formats (Table 7.4). When the Continuous variable was collapsed to resemble the Ordinal variable, tie rates improved overall to between 75-100%, except for drugs which had ties ranging from 30.5-100%.

Excluding the drug category, the Wilcoxon test found differences for only 6% of the cells, indicating considerable reliability between these two question formats.

TABLE 7.5
PERCENT OF ACTIVE DRUG OFFENDERS RESPONDING ACROSS THREE DRUG QUESTIONS

# DRUG CRIMES	PRODUCT (collapsed)	ORDINAL	CONTINUOUS (collapsed)
1-50	47.4%	22.3%	28.7%
51-100	15.8	9.8	8.7
101-150	3.0	4.9	5.7
151-200	4.3	6.9	10.0
201-250	3.8	4.6	6.5
250+	25.7	51.5	40.4
TOTAL	100.0	100.0	100.0
n	233	231	232

Looking at frequency reports across question formats for drug offenders, Table 7.5 presents the proportion of (self reported) drug offenders in the confidential male cohort that gave responses in each of the six categories. The ordinal format obtains higher frequency responses compared to the product format while ordinal and continuous obtain similar responses.

Nearly half of the active drug offenders (47.4%) reported 1-50 drug crimes using the collapsed Product format. This is approximately twice the proportion reporting in this category for the Ordinal or Continuous formats. On the other hand, only 25.6% of the Product responses fell into the 250+ category compared to 51.5% of the Ordinal responses and 40.4% of the Continuous responses, indicating that most of the variation is at both ends of the distribution.

In sum, crime rates obtained from the Product format tied with the Continuous question about half the time. For the remaining cases, half the time the Product rates were higher; the other half of the time, the Continuous rates were higher. Drug offenders reported significantly higher rates with the Continuous format; burglars reported higher rates with the Product format. Data collected from female inmates appear to be less reliable compared to male self-reports. Higher rate activity -- as, for example is found for drug crimes -- appear to be considerably less reliable than low or moderate crime rate activity.

Product rates, when collapsed, tended to be higher than those obtained by the Ordinal and Continuous format. The Continuous rates, when collapsed, were very consistent with the Ordinal rates.

As expected, the Product question, which usually refers to a smaller time increment, tended to generate higher rates. While there are variations across formats, they do not appear to be systematic so that estimating an error rate appears to be neither feasible nor necessary, at least for the current sample of cases. To further explore this issue, we "asked" inmates directly if their personal crime rate data was accurate.

Interactive Computer Questions

For one sample of incoming prison inmates, the paper and pencil questionnaire was replaced with a portable computer. The software program was developed to emulate the questionnaire so the questions were, for the most part, identical.

The computer method was designed to give us the opportunity to "interact" with respondents without the sense of intrusion that may occur with face-to-face interviews. The computer software was programmed, using D-Base III, to "feed back" each respondent's crime rate information in the form of a new question, the answers to which might give us a better understanding of measurement error. One interactive question was placed early in the crime type question set. After a respondent indicated participation in a particular crime type, two items forming the Product question came up on the screen:

> During the *[specific number of street months for this respondent]* how many months did you do *[crime type]*?

> During the *[number of months derived from above item]* months, how often did you usually do *[crime type]*?

Immediately following this question, the Product lambda was calculated as follows:

> "We calculated you did *[X number of crimes]*. Is this about right?"

Those who said "no" were asked "is it high or low?" Data from these responses for selected crime

types is presented in Table 7.6.

TABLE 7.6
INTERACTIVE COMPUTER QUESTION: IS *[PRODUCT]* ABOUT RIGHT?

	ROBBERY	ASSAULT	THEFT	DRUG DEALING
Those who said "YES" to: *Is [Product] about right?*	81.1%	80.0%	81.4%	80.3%
Number who said "NO"	(7)	(11)	(8)	(13)
"NO, *[PRODUCT]* IS HIGH"	28.6	33.3	37.5	38.5
"NO, *[PRODUCT]* IS LOW"	71.4	66.7	62.5	61.5
TOTAL	100.0	100.0	100.0	100.0

Clearly, the n of cases who indicated that the computed product rates were not correct here is very low and findings must be viewed with caution, yet the implications of these findings are important. The proportion of respondents who did not agree with the Product value is consistent at about 20% across the four crime types. The direction of the error is consistent also with the majority (between 62 and 71%) of the 20%, indicating the product value was "too low." This question immediately followed the frequency measures, and because respondents may have been surprised that the computer was "listening" so well to them, perhaps these answers contain "acquiescent response bias" (Shuman and Presser, 1981:204). That is, inmates' responses may be biased by social desirability issues:

> A question may cause the respondent to consider the social desirability of the response, rather than its accuracy. A respondent may give an answer out of a desire or need for "social approval" or because the question has a "trait desirability" (Edwards, 1957) that elicits an approving response...(Weis, 1986:26).

It seems quite probable that acquiescence was a factor given respondents' answers to another set of questions. Many "screens" later (as opposed to pages passed had they been using a paper questionnaire), at the *end* of the question sequence for each crime type, a similar question was asked that produced different responses. Respondents were asked about each of the three question formats discussed in this chapter:

"Is (Product) correct?"
"Is (Ordinal) correct?"
"Is (Continuous) correct?"

TABLE 7.7
INTERACTIVE COMPUTER QUESTION: ARE CRIME RATES CORRECT?

	ROBBERY	ASSAULT	THEFT	MVT	FORGERY	FRAUD	DRUG DEALING
IS [PRODUCT] CORRECT? (Yes)	62.0%	49.1%	54.5%	68.4 %	95.5%	66.6%	50.7%
IS [ORDINAL] CORRECT? (Yes)	35.1	41.8	56.8	52.6	45.0	33.0	47.7
IS [CONTINUOUS] CORRECT? (Yes)	92.0	70.9	75.0	78.9	86.3	80.0	75.7
(n)	(37)	(55)	(44)	(19)	(22)	(15)	(65)

As indicated in Table 7.7, responses concerning Product rates differed across crime types compared to answers presented in Table 7.6. Except for forgery, which was "correct" according to 95.5% of the forgers, the proportion agreeing with the Product value dropped from around 80% (Table 7.6) to between 49.1 and 68.4%. Assault, theft and drug rates were "correct" only about half the time, according to respondents active in those crime types. The Ordinal format was perceived as reliable by even fewer respondents, only one-third to one-half agreed with their earlier response. The Continuous question, which may have more face validity[12] (it may have more intuitive meaning to respondents), did much better than the other two formats. Over 90% of the robbers agreed with their earlier answer to the Continuous question and agreement was above 70 percent for all other crimes in the table.

These data, obtained from the interactive computer questions, suggest several problems which deserve the attention of future researchers:

1. The effect of socially desirable behavior or acquiescence on inmate self reports of criminal activity;

2. The extent to which response variability is related to "method variance" (Sudman and Bradburn, 1974), including the method of survey administration, and the location and wording of specific questions.

Summary of Question Format Analysis

The Product question format tended to produce higher average crime frequency estimates, a finding consistent with previous research (Rolph and Chaiken, 1987), but differences were often not significant. Twenty percent of respondents in the computer study indicated that the Product value was not "about right" and the majority of these indicated the Product value was "too low," suggesting that mean Product rates might actually be higher than those obtained. In a later question, 30 to 50% responded that the Product value was incorrect. This is important since the Product is the format used in calculation of annualized offending rates, λ, and thus in estimates of incapacitation effects.

Asking about behavior during smaller time increments likely affects frequency rates. The drug crime question employed a weekly-rate product compared to a monthly rate for all other crimes, and the consistency across response formats was lower. This problem is confounded by the fact that drug use is a high frequency activity.

Using the interactive computer data collection method, we found evidence of response effects, possibly resulting from question placement. The extent of measurement error caused by these response effects (which may be acquiescence or social- desirability behaviors) is unknown.

ENDNOTES--CHAPTER SEVEN

12. Babbie (1975:494) defines face validity as "[t]hat quality of an indicator that makes it seem a reasonable measure of some variable."

CHAPTER EIGHT*[2]

DATA QUALITY

One of the purposes of self report research is to gather data not available from any other source. In criminal career research, any discomfort we have with our dependence on self report data is only aggravated by the fact that the information we seek to obtain is incriminating (Nettler [1974] referred to these as "confessional data"). The findings of skewed distributions of rates across cohorts is clearly robust, but the exact magnitudes of individual rates are subject to considerable measurement error. To the extent that this measurement error is random, our concerns may be somewhat assuaged.

The primary source of measurement error in self-report research is generally attributed to response effects. In the case of offending rate data, the response burden on the study group has been considered excessive. This is because respondents are expected to recall in detail what may be daily or near-daily events (Clayton and Voss, 1981), and highly sensitive events at that (Sudman and Bradburn, 1974). A simple definition, provided by Sudman and Bradburn (1974:2), is that response error occurs "when the respondent's answer differs from the true answer."

There is no "true answer" against which to compare self-reports of undetected criminal activitycan be compared. Even a polygraphed report (Clark and Tifft, 1966; Gold, 1966) is subject to memory decay and other unintentional error. Official records reflect system responses--if recorded accurately (O'Brien, 1985)--to behaviors that have come to the attention of authorities. So assessing data quality of offenders' self reports of criminal activity is a difficult task.

For this study, we used two approaches to examine data quality. First, a limited number of self report variables were compared to official record data to assess the extent and direction of the differences in the two data sources. Second, we retested 85 men to measure instrument reliability of the longer version of the questionnaire. These analyses are discussed below and summarized at the end of the chapter.

Comparing Self Reports and Official Records

Importantly, we do not consider the following to be a "criterion validity" analysis. A criterion validity analysis would assume that the official records serve as the criterion, or the standard, by which we assess the accuracy of self reports. Subsequent follow-up Interviews with offenders who participated in the 1986 Colorado Replication Project found self reports of official contacts to be highly consistent with data obtained from the original self administered survey, even though the interviews

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[2] *The authors would like to thank Nanci Avitable for her assistance with this chapter.

took place two years after the original. All the reports of official contacts by the small group of interviewees (n=20) were consistent with their earlier responses to questionnaire items[1]. Further, respondents explained incongruities between their self reports and rap sheet entries to the satisfaction of interviewers and consistently provided much more information than was available from the rap sheet. We agree with Nettler (1974:89) who states, "[i]t is paradoxical that critics of official records of criminal activity should revert to them as validators of data from questionnaires and interviews."

Much work has been done by Rand researchers comparing prisoners' self reports and official record information (Peterson et al, 1982; Marquiz and Ebener, 1981; Chaiken and Chaiken, 1982a,1982b; Greenwood and Abrahamse, 1982; Petersilia et al, 1980; Rolph, Chaiken and Houchens, 1981; Klien and Caggiano, 1986; Rolph and Chaiken, 1987). This comparison between self reports and official records is important, however, because most decision makers in the criminal justice system rely almost entirely on official record data. We need to better understand how self reports of behavior in a criminal career correspond to behavior that gets recorded in official records since the system both creates and reacts to the official record. A better understanding of how self reports and official records converge might be used to improve official record data. After all, we cannot assume that self reports of crimes will ever be systematically available and forthcoming from offenders.

Marquiz and Ebener (1981) studied the quality of prisoner self reports using "classical test theory" (e.g., Guilford, 1954), the Census Bureau Models (e.g., Hanses et al, 1961) and structural equation approaches (Joreskog and Goldberger, 1975; Marquis and Marquis, 1977) and concluded that self reports of arrests and convictions usually exceeded those recorded in official files. Studies of reported arrests by adults and students in the general population frequently detect more self reports of arrests that can be found in official records (Knupfer, 1964; Bridges, 1979; Hardt and Peterson-Hardt, 1977; Ball, 1967; Sobell, 1976) but this is not always the case (Petersilia, 1977; Jessor et al, 1975; Wyner, 1976). In the current study, we found prisoners reported more lifetime arrests, convictions and adult incarcerations than were recorded in official records. These and other findings are discussed below.

Findings: Official Records and Self Reports

Official record data were gathered on a random sample of over 400 men who completed the longer, confidential version of the questionnaire.[2] Data from prison files were also collected on 115 of the 128 women surveyed. The official record data collection form is in Appendix B.

A variety of items were examined representing different levels of measurement and various demographic and criminal historyvariables. For nominal data, the percent of the sample that matched between official records and self reports is presented. For continuous variables, such as

age, mean values are presented. Also, Pearson's product moment correlation coefficient was used to measure the strength of the linear relationship between the self report and official record variables.

Demographic Characteristics: The demographic variables had the most consistency between self reports and official records. Ethnicity was consistent about 90% of the time for both men and women (93.1% and 87.8%, respectively). The respondent's age at the time he or she participated in the study was consistent 83.5% of the time for men and 87.8% of the time for women. Women matched slightly better than men on the education items (67.8% compared to 60%) but both groups matched less than 50% of the time on marital status (48.6% for men; 45.2% for women). These data are presented in Table 8.1.

TABLE 8.1
COMPARING SELF REPORT DATA WITH OFFICIAL RECORDS: DEMOGRAPHICS AND CRIMINAL HISTORY EVENTS
Percent of Cases with Consistent Data

	MEN (418)	WOMEN (n=115)
DEMOGRAPHICS		
Ethnicity	93.1%	87.8%
Education	60.0	67.8
Marital Status	48.6	45.2
Age at Time of Study	83.5	87.8
CRIMINAL HISTORY		
Current Arrest Date	73.5	90.0
# Lifetime Felony Arrests*	31.3	30.4
# Lifetime Felony Convictions*	42.6	49.6
# Prior Sentenced Incarcerations*	43.3	55.7

* Truncated at 4.

These consistency rates between self reports and official records were similar to those found in our previous study of men entering prison in 1986 (Mande and English, 1988). In the earlier study, ethnicity matched for 88.9% of the cases; date of birth (as opposed to age) matched for 92.3% of the respondents; education matched for 53.7% of the men. This consistency in findings between the 1986 and 1988-89 cohorts is not surprising since both studies took place in the same jurisdiction (the state of Colorado), within a two to three year period. Recording practices probably remained fairly stable during this period.

Criminal History: Current arrest date matched for 90% of the women and about three-fourths (73.5%) of the men. For the 1986 Replication project, 76% of the men matched on "month arrested."

The current arrest date is important from a methodological perspective because it marks the end of the measurement period for each respondent. To guard against telescoping or other recall problems during questionnaire administration, self reports of arrest date should be correct to insure that the measurement period is accurately bounded.

Other criminal history events examined (lifetime arrests, convictions and incarcerations) matched, in general, less than half the time for both men and women, even when the number of events is truncated at four. Inmates may have been confused over whether or not to include the current offense when answering these questions, but comparing the means (Table 8.1a) from each data source suggests respondents reveal more information than is available in official records.[3] Another explanation may be that problems with missing data in official records may be disproportionately found in files of more serious offenders. On occasion, presentence investigation is waived as part of the plea negotiation, an offer that would primarily benefit serious offenders.

TABLE 8.1a
COMPARING SELF REPORTS WITH OFFICIAL RECORDS:
AVERAGE NUMBER OF CRIMINAL HISTORY EVENTS
(Men, n=418)

EVENT	SELF REPORT MEAN (n)	OFFICIAL RECORD MEAN (n)
# Lifetime Arrests	4.77 (403)	3.56 (369)
# Felony Convictions	3.35 (414)	1.69 (401)
# Prior Incarcerations	1.60 (408)	1.17 (401)

According to data presented in Table 8.1, the consistency rate improves as the events measured become, presumably, less ambiguous. That is, it is possible that an arrest might not be recorded, or that a "contact" might be misconstrued as an arrest, but the occurrence of an incarceration is probably less debatable. However, pretrial versus posttrial might become confused, and the number of incarcerations combined with returns to prison for parole revocations might be unclear.

The consistency between self reports and official records for these important events in a criminal career is improved over the 1986 cohort. Felony convictions and prior incarcerations matched for 36.1% and 27.8% of the men surveyed (Mande and English, Table 5.3:1988), but neither the self

report nor the official record data were truncated in the analysis of the 1986 cohort.

Drug Use: The questionnaire asked offenders about their use of illicit drugs during the measurement period. Since it is during this period that they were arrested for their current crime, we expected official records to include documentation of drug use, particularly since it is typically addressed in the presentence report. Also, since the presentence report is almost entirely based on self report data, we expected a high rate of consistency. Indeed, this is what we found.

TABLE 8.2
SELF REPORTS AND OFFICIAL RECORDS:
DRUG USE DURING MEASUREMENT PERIOD
(PERCENT CONSISTENT)

	MEN (n=418)	WOMEN (n=115)
Downers	83.7%	92.2%
Uppers	75.8	88.7
PCP	84.7	93.9
Heroin/Methadone	82.5	88.7
Glue	85.9	94.8
Crystal	79.7	85.2
Marijuana	64.6	67.0
LSD	76.8	89.6
Crack	80.4	82.6
Cocaine	69.9	73.9

As indicated in Table 8.2, a higher proportion of the female self report data agreed with the official record data across all drug types. When the cases that did not match across data sources were examined, respondents consistently (i.e., both men and women, and across all drug types) reported more drug use than was recorded in official records. Although the n's were relatively small (since the majority of cases matched), we found no systematic evidence of underreporting or concealing drug use (data not presented).

Age at First Arrest: A small proportion of both the men and women had exact matches between their official record and self reports for age at first arrest (17.2% and 13.9%, respectively), as indicated in Table 8.3. However, the correlations were fairly high at .77 and .84, respectively (data

not presented). In our earlier study, we found a very similar proportion (16.3%) of the male sample with self reports of age at first arrest that matched data from official records (Mande and English, 1988).

TABLE 8.3
SELF REPORT AND OFFICIAL RECORDS:
AGE AT FIRST ARREST/CONVICTION
% CONSISTENT

	MEN n=418	WOMEN n=115
AGE AT FIRST FELONY ARREST		
Exact Match	17.2%	13.9%
Within One Year	38.3	38.3
Within Two Years	50.4	50.2
AGE AT FIRST FELONY CONVICTION		
Exact Match	19.1*	20.9**
Within One Year	46.9	43.5
Within Two Years	61.2	61.8

*Match rate for black men was 23.9%.
**Match rate for white women was 33.9%.

Interestingly, when the analysis allowed for in some error ("within one year", "within two years"), an approach used by Chaiken and Chaiken (1982), consistency rates improved but not much beyond 50%. The proportion of men and women matching were nearly identical.

TABLE 8.4
SELF-REPORTS AND OFFICIAL RECORDS:
MEAN AGE AT FIRST ARREST/CONVICTION

	MEN (n=418)	WOMEN (n=115)
AGE AT FIRST FELONY ARREST		
Mean Age, Self Report	17.9	18.9
Mean Age, Off. Record	20.9	21.2
AGE AT FIRST FELONY CONVICTION		
Mean Age, Self Report	22.1	23.5
Mean Age, Off. Record	26.0	27.2

*$p < .001$

For both men and women, the mean self reported age was younger than the official record date. On average, men reported their age at first arrest to be 17.9, three years younger than the average age obtained from official records. These findings were consistent with our earlier study (Mande and English, 1988:98) where the mean age at first arrest from self reports by men was younger and differed significantly from the official record mean: 17.9 compared to 19.9.

The disparity between official record data and self reports of the offenders age at early criminal history events may be related to practices of "sealing" juvenile records so that official data is available only for the adult history. Also, offenders may confuse early police contacts with arrests while the contact was recorded as "lecture and release," if it was recorded at all. Self report data were collected to address this issue (see Chapter Three for the list of data items) but that analysis is beyond the scope of the present project.

Age at First Conviction: About 20% of men and women respondents "matched" between self reports and officially recorded age at first conviction. When we allowed for a 1-year margin of error, about 45% matched, and this increased to just over 60% with a 2-year margin of error (see Table 8.5). Like the arrest item discussed above, the self reported mean was younger than the mean obtained from official records. Again, this corresponds with our findings from the 1986 Replication Project, although the proportion of male responses matching official records was lower (13.6% for the direct match and at 43.9% when using the 2-year margin of error).

Current Crime: This was examined by identifying from official records the three most serious current arrest/conviction crimes and comparing any of these three with the offender's self report of the arrest/conviction crime. Charges of conspiracy and attempt were considered equal to the actual crime.

TABLE 8.5

SELF REPORTS AND OFFICIAL RECORDS: CURRENT CRIME

	MEN	WOMEN
ARREST % Consistent	51.0%	60.9%
CONVICTION % Consistent	51.9%	55.7%

Compared to men, women had a slightly better consistency rate between self reports and official records for current arrest and conviction crime (see Table 8.5). The data for the men were consistent about half the time, the female data were consistent 61% of the time.

In our 1986 study we combined groups of crimes that had elements in common, and the consistency rate for that sample of men was 72.5% (Mande and English, 1988). In this analysis, we did *not* combine categories of crimes that might be considered similar and are very often plea bargained down from one another (i.e., "assault/felony menacing" or "burglary/trespassing"). Rather, we wanted to directly compare the legal description of the offense for which they were doing time (which would seem to be unambiguous) with the respondents' perception of the instant offense.

TABLE 8.6
CONVICTION CRIMES OF THOSE WHOSE SELF REPORT DIFFERED FROM OFFICIAL RECORD DATA

OFFICIAL RECORD DATA:	MEN		WOMEN	
	n	%	n	%
Assault*	11	5.8	1	2.0
MVT	4	2.1	1	2.0
Burglary**	21	11.0	0	0
Child Abuse	1	0.5	2	3.9
Criminal Impersonation	5	2.6	3	5.9
Criminal Mischief	3	1.6	0	0
Habitual Traffic Offender	5	2.6	1	2.0
Drug Possession, Sale	5	2.6	5	9.8
Forgery	3	1.6	6	11.7
Fraud	14	7.4	9	17.6
Kidnapping	4	2.1	0	0
Felony Menacing	10	5.3	2	3.9
Murder	4	2.1	3	5.9
Rape/Sex Offense	18	9.5	1	2.0
Theft	14	7.4	5	9.8
Trespass**	10	5.3	0	0
Robbery**	11	5.8	1	2.0
Other	47	24.7	11	21.5
TOTAL	190	100.0	51	100.0

As indicated in Table 8.6, almost 40% of the group of women whose responses did not match were convicted of forgery, fraud or theft. Twenty percent of this group of men were burglars or sex offenders. In sum, it is apparent that for nearly half the sample studied, we did not measure the same "current conviction" phenomena with self reports and official records. In 1986, when our analysis was designed to account for similar behaviors, our consistency rate was almost 50% higher than the current study. It appears that respondents participating in studies of this sort may be reporting their *behavior* rather than the officially recorded charge since the respondents whose reports were inconsistent reported fairly common crimes. Perhaps the consistency rates for each group would have increased if the self report question referred specifically to the court order, for example: "What crime is listed on your District Court Mittimus that resulted in this incarceration?"

This supports what we already know about official records--these document the criminal justice system's response to illegal behavior. But it appears that, at least for some offenders, self-report responses may reflect what they *did* to end up behind bars. When we compared consistency by combining similar *behaviors* in 1986, our consistency rates increased. This is a positive finding, since this project and other self report studies like it focused on criminal behavior in the community--not just official responses--prior to the current incarceration.

Both sources of data have limitations. Self report data provide more information but we cannot be sure what we are measuring. Official record data probably reflect the community's response to specific kinds of behaviors. Only data from both sources will adequately reflect the nature and course of a criminal career including both offender behaviors and responses by the criminal justice system.

Questionnaire Reliability

The second method we employed to assess data quality was a test-retest analysis. The purpose was to measure the reliability of selected questionnaire items. Reliability addresses our ability to obtain a consistent response, or finding, with repeated trials (Carmines and Zeller, 1979). Since questions pertaining to the quality of self report data are so difficult to address empirically, our reliability analyses take on an important role in assessing data quality.

A random sample of 85 men completed the questionnaire twice. The interval between administrations ranged from 6 to 21 days, with the vast majority (over 90%) completing the second questionnaire one week later. The study respondents were housed in the Diagnostic Unit (DU) of the prison awaiting transfer to a permanent housing assignment. Their length of stay at DU was usually less than three weeks. While we would have preferred to delay the retest, it was simply not possible in most cases. This is an important caveat because we can overestimate reliability if a respondent remembers his answers from Time One and repeats them at Time Two. Indeed, Farrington (1973) found brief retest intervals may result in inflated coefficients.

To measure changes between the two tests, phi or Cramer's V measures of association were

employed. Phi is a nonparametric measure of association calculated from 2x2 contingency table data. Cramer's V is calculated when there are more than two dimensions for either of the two variables being compared. Categorical data were examined using percent matched, Pearson product moment correlation coefficients, Gamma coefficients, and percent of mismatches that involved Time Two values that exceeded Time One values. Continuous variables were assessed using paired t-tests, Pearson correlations, percent match and percent mismatch information. A .05 cutoff was used to determine statistical significance.

Test-Retest Findings

Demographic variables examined at Time One (T1) and Time Two (T2) are presented first, and these are followed by variables measuring criminal history, current offense and lambda. Appendix E contains additional findings not discussed in the text of this report.

TABLE 8.7
DEMOGRAPHIC VARIABLES

Variable	n	Correlation		Means		T-test		% Match	% Mismatch $T_2 > T_1$
		r*	V**	T_1	T_2	t	p		
Current Age	83	1.00	—	30.34	30.36	-1.00	.32	95	75
Education level	82	.94	—	10.67	10.60	1.06	.29	90	38
Ethnicity	84	—	.98	—	—	—	—	98	—
Diploma	82	—	.98	—	—	—	—	99	—
Marital status	84	—	.90	—	—	—	—	92	—

*Pearson correlation coefficient
**Cramer's V

Demographics: As shown in Table 8.7, correlation measures for age, education, ethnicity and marital status were at .9 or above. Over 90% or more of the cases matched across time on these items. Of the respondents whose age did not match at T2 (the last column in the table), three-fourths reported ages older at T2 than T1 (two, or 50%,of the four respondents not matching actually had a birthday between T1 and T2). Just over one-third (38%) of the respondents that did not match at T2 for "highest grade finished" reported a higher grade; the other two-thirds reported finishing school at a lower grade.

TABLE 8.8
HISTORY VARIABLES

Variable	n	Correlation r*	Correlation Phi	Means T_1	Means T_2	T-test t	T-test p	% Match	% Mismatch $T_2 > T_1$
Age at first									
crime	85	.95	—	17.19	17.69	-2.00	.05	74	82
questioned	83	.88	—	16.82	17.34	-1.39	.17	63	65
arrest	81	.93	—	18.19	18.69	-1.88	.06	67	59
felony									
arrest	82	.88	—	21.10	20.90	.51	.61	65	45
conviction	84	.95	—	22.13	21.56	2.22	.03	67	36
Number of									
arrests,total	79	.93	—	12.63	12.08	.75	.46	35	45
felony									
arrests	80	.37	—	4.76	3.31	1.71	.09	55	36
Colorado	80	.77	—	3.80	3.78	.06	.96	55	47
before 18	79	.65	—	1.81	.95	2.10	.04	76	37
convictions	84	.84	—	3.26	3.55	-.96	.34	74	45
Colorado	84	.84	—	2.79	2.95	-.68	.50	73	39
before 18	80	.97	—	.79	.68	1.58	.12	83	36
adult									
prison terms	79	.85	—	1.65	1.63	.14	.89	62	50
paroles	84	.96	—	1.00	1.10	-1.73	.09	87	73
revoked	79	1.00	—	.68	.68	.00	1.00	97	50
probations	84	.70	—	1.01	1.02	-.15	.89	70	52
revoked	82	.61	—	.89	.68	1.16	.25	79	35

*Pearson correlation coefficient

Criminal History: Criminal History age measures--age at first crime, first questioned, first arrest, etc.--mark the onset of a criminal career. As shown in Table 8.8, while the correlations were high (above .88), the proportion of the sample that matched between T1 and T2 varied between 63-74% (see Table 8.8). There were significant differences between T1 and T2 mean

ages for "first crime" ($t=-2.0$; $p=.05$) and "first felony conviction" ($t=2.22$; $p=.03$). While the mean age at first crime was older at T2 (17.7 compared to 17.2), the mean age at first felony conviction was younger at T2 (21.6 compared to 22.1).

The only significant difference between T1 and T2 responses to criminal history measures was "arrests before age 18" ($t=2.1$; $p=.04$), where the mean at T2 dropped to half the value at T1 (1.8 compared to .95). For the history measures, the correlation coefficients varied from a high of .97 (juvenile convictions) to a low of .37 (number of lifetime felony arrests), suggesting that the saliency and frequency of the event may likely affect a measure's reliability. This concurs with our findings regarding the consistency between self reports and official records: the extent of consistency increased systematically as the criminal justice event became (presumably) less ambiguous (discussed above).

Overall, our questionnaire measures of criminal history, while not bad (with Pearson's r's above .8, generally), appear to need improvement. For example, we suspect that "number of prison terms" was confusing for offenders with a history of time served on parole violations. Measures such as this would be particularly unreliable for offenders with extensive or confusing criminal histories, yet these are the study subjects who are often the topic of career criminal research. Given the complex nature of the criminal justice system and the confusion in active careers, perhaps there is no substitute for face-to-face interviews.

Appendix--- contains additional test-retest findings for "Reasons First Involved in Crime," first conviction crime, prior incarcerations, and months under correctional supervision at the time of current arrest and conviction.

Current Conviction Crime: The proportion of the sample that matched at T1 and T2 for current conviction crime (Table 8.9) is very high (at or above 93% for all crime types). This is interesting since, consistencies between official record and self report data (reported earlier in this chapter), were found for about 52% of the male sample. Phi represents the correlation between two dichotomous variables and, as a measure of association, it can be interpreted as the percentage of variance in one variable explained by the other (Farrington and Loeber, 1989). Test-retest coefficients for items asking respondents what they "actually did" (versus the arrest or conviction charge) are presented in Appendix.

TABLE 8.9
CURRENT CONVICTION VARIABLES

Variable	n	Correlation r*	Correlation Phi	% Match
Convicted of				
Assault	85	—	.71	93
MVT	85	—	1.00	100
Burglary	85	—	.71	93
Drug Possession	85	—	.96	99
Fraud	85	—	.39	96
Kidnapping	85	—	.69	96
Murder	85	—	1.00	100
Stolen Property	85	—	.57	98
Forgery/Check/Card	85	—	.86	98
Robbery	85	—	.95	99
Arson	85	—	**	100
MVT	85	—	**	100
Vice	85	—	1.00	100
Theft	85	—	.69	95
Child Abuse	85	—	.49	98
Weapons	85	—	.49	96
Trespass	85	—	.81	95
Rape	85	—	1.00	100
Sex Offense	85	—	1.00	100
No Crime	85	—	**	99
Other	85	—	.81	95

*Pearson correlation coefficient

**No one responded yes at both time one and time two

TABLE 8.10
RELIABILITY OF VARIABLES USED IN THE LAMBDA EQUATION

Variable	n	Correlation		Means		T-test		% Match	% Mismatch $T_2 > T_1$
		r*	Phi	T_1	T_2	t	p		
Did Burglaries	85	—	.86	—	—	—	—	95	—
# months	85	.92	—	.64	.75	-1.16	.25	89	67
# /month	84	.99	—	1.73	1.89	-1.37	.18	90	63
Did Robberies	85	—	.87	—	—	—	—	96	—
# months	84	.80	—	.25	.33	-.94	.35	92	57
# /month	81	.99	—	.33	.32	.57	.57	96	33
Did Assaults	85	—	.71	—	—	—	—	87	—
# months	82	.77	—	.91	1.00	-.46	.64	78	39
# /month	81	.86	—	.58	.44	1.79	.08	78	33
Did Theft	85	—	.75	—	—	—	—	92	—
# months	83	.93	—	.61	.70	-.98	.33	83	64
# /month	84	.82	—	.75	.58	1.29	.20	83	36
Did MVT	85	—	.81	—	—	—	—	96	—
# months	83	.99	—	.25	.27	-.58	.57	96	67
# /month	84	1.00	—	.43	.43	.00	1.00	98	50
Did Forgeries	85	—	.70	—	—	—	—	95	—
# months	84	.88	—	.29	.25	.54	.59	92	57
# /month	84	.95	—	2.99	2.26	1.20	.23	93	33
Did Fraud	85	—	.88	—	—	—	—	98	—
# months	85	.95	—	.73	.59	1.59	.12	94	20
# /month	85	.97	—	1.31	1.36	-.14	.89	92	43
Did Drug Deals	84	—	.94	—	—	—	—	98	—
# months	82	.98	—	1.73	1.78	-.56	.58	90	63
# /week	81	.41	—	8.51	23.68	-1.28	.20	89	66
Number of months									
Locked up	83	.81	—	1.82	1.76	.21	.83	82	20
Hospitalized	83	-.02	—	.05	.02	.53	.60	96	33

*Pearson correlation coefficient

Crime Participation and Frequency Measures: Overall, there were no statistical differences between T1 and T2 for any of the measures of participation or frequency. Our participation measures ("Did [x crime]" in Table 8.10) appeared fairly reliable over time with over 87% of the group responding consistently at T1 and T2. The Phi coefficient was above .7 across the eight items, but the coefficients for assault, theft and forgeries measured weaker association between T1 and T2 than for the other crime types.

The Pearson's r for "Months Did" ("# months" in Table 8.10) between T1 and T2 was at .8 or above, and frequently above .9. Except for forgery and fraud, the average "Months Did" was higher at T2 although the differences were not significant. Reports of activity per month were consistent for over 80% of the cases, except for assault activity which was consistent for 78% of the group. Of the assault activity reports that did not match between tests, assault reports were higher for 33% of the cases at T2. Drug deals per week had a Pearson's r of only .4, well below the other correlation coefficients, suggesting that unreliability increased with the smaller time increment used in the measure or the high frequency of activity, or both. The mean of T2 reports of drug activity was nearly three times higher than the mean at T1 (23.7 compared to 8.5). Still, 89% of the sample responded consistently between T1 and T2.

Number of months locked up or hospitalized, Table 8.10, is used to calculate offender's street time, which is the denominator in the lambda equation. The reliability of these measures is an important consideration in assessing the overall error associated with self reported crime rates. The measures in this study appear reliable with r's above .8 and the percent matching between T1 and T2 above 80%.

TABLE 8.11
RELIABILITY OF LAMBDA ESTIMATES

Lambda	n	r*	Mean		T-test		%	% Mismatch
			T_1	T_2	t	p	Match	$T_2>T_1$
Burglary	82	.83	6.74	9.48	-1.32	.19	88	50
Robbery	79	.87	.68	1.04	-1.10	.28	92	50
Assault	78	.94	3.48	2.72	1.51	.14	73	43
Theft	80	.85	5.39	3.83	1.27	.21	79	47
MVT	81	1.00	4.41	4.43	-.81	.42	96	67
Forgery	82	.98	20.57	17.00	1.21	.23	91	29
Fraud	83	.98	11.51	10.77	.38	.70	89	33
Drug Dealing	77	.52	335.46	1187.09	-1.36	.18	87	80

*Pearson correlation coefficient

As indicated in Table 8.11, there were no significant differences in lambda means obtained at T1 or T2. In general, the means were quite similar except for drug crimes, which was over three times larger at T2. Pearson's r was above .8 for all crime types except drugs where r=.52.

TABLE 8.12
SELF-CONCEPT VARIABLES

VARIABLES	n	Phi	MATCH (%)
Happy growing up?	79	.67	87
Car thief?	84	1.00	100
Working man?	84	.66	85
Drug dealer?	84	.81	94
Parent?	84	.86	94
Booster?	84	.03	93
Non criminal?	84	.49	79
Drug user?	84	.72	90
Straight?	84	.66	87
Bread winner?	84	.49	85
Drunk?	84	.73	95
Independent?	84	.52	77
Alcoholic?	84	.80	94
Neighbor?	84	.59	85
Misfit?	84	.49	95
Student?	84	.29	94
Forger?	84	.70	98
Family man?	84	.55	80
Burglar?	84	.69	95
Athlete?	84	.56	86
Street fighter?	84	.67	94
Hard worker?	84	.67	83
Violent person?	84	.52	94
Sober?	84	.74	92
Con?	84	.72	94
Honest?	84	.63	82
Robber?	84	.83	98
Dependable?	84	.55	77
Bad tempered?	84	.40	87
Gang member?	84	.59	95
Player?	84	.67	92
Fence?	84	.48	95
Problem drinker?	84	.79	93
Professional criminal?	84	.49	92
Drug addict?	84	.80	95
Other?	84	1.00	100

Self Concept: Some of the self concept variables listed in Table 8.12 have been used to describe subsamples of offenders with interesting frequency rates or data quality problems (Chaiken and Chaiken, 1982; Mande and English, 1988). The reliability of these items varied considerably. It appears that we can be reasonably confident with descriptions of car thief, drug dealer, alcoholic, robber, problem drinker, and drug addict (match rates above 90% and phi above .8). Fortunately, this list includes most of the descriptions that have been useful in past research.

Our measures of more "positive" self concepts appeared less reliable than the other items. "Non criminal," "Bread winner," and "Non-criminal" had phi coefficients of .49; "Student" had a phi of .29; and "Family man," "Neighbor," and "Honest" had coefficients of .55,.59 and .63, respectively. Perhaps these descriptions are more likely to change with the passage of time in prison. It is interesting to note that, for the 1988-89 study, most of these unreliable items were *added* to the original list of self concepts developed by Rand researchers in our attempt to include a more "balanced" selection of self concept measures.

Test-retest Reliability and Race

Lambda Variables and Race: No statistical differences were found between mean lambda rates obtained at T1 and T2 for blacks, whites or hispanics, but the correlations between tests varied considerably across crime type and race. Individual reliability tests for the items used to create lambda are included in Appendix F.

Blacks: As illustrated in Table 8.13, Pearson's correlation coefficient between T1 and T2, was .87 or above for all crime types except burglary ($r = .78$) and drugs ($r = .39$). For both of these crime types, mean estimates reported at T2 were larger. This difference at T2 suggests that these measures might be less reliable for this group compared to the other crime types. The match rates across crime types were above 80%, except for assault which matched for 67% of the group. Fewer assaults were reported at T2: the mean assault rate was less than half what it was at T1. For the majority of cases that did not match between tests, the rates reported at T2 were lower. The exception to this was burglary (50% reported higher rates at T2) and drugs (67% reported higher rates; the mean was three times higher at T2).

TABLE 8.13
LAMBDA VARIABLES: BLACKS

Lambda*	n	r**	Mean		T-test		% Match	% Mismatch
			T^1	T^2	t	p		$T^2>T^1$
Burglary	30	.78	6.40	11.27	-.95	.35	87	50
Robbery	28	.91	.82	.96	-.46	.65	89	33
Assault	27	.87	4.25	1.85	1.98	.06	67	22
Theft	27	.99	6.07	2.79	1.39	.18	85	25
MVT	30	1.00	10.03	10.00	1.00	.33	.97	0
Forgery	30	1.00	2.50	1.90	1.42	.17	87	25
Fraud	30	1.00	26.13	27.77	-.44	.66	90	33
Drug Dealing	27	.39	136.01	419.65	-.94	.35	89	67

*For the purpose of this analysis only, the estimates include inactive ($\lambda=0$) offenders.
**Pearson product-moment correlation coefficient.

Whites: No differences in mean lambda rates were found between T1 and T2 for whites (Table 8.14), and the correlation coefficient was at or above .86 for all crimes except fraud and drugs. Fraud rates correlated at .27, with the mean rate at T2 reported at less than half the T1

Table 8.14
LAMBDA VARIABLES: WHITES

Lambda*	n	r**	Mean		T-test		% Match	% Mismatch
			T^1	T^2	t	p		$T^2>T^1$
Burglary	37	.97	9.10	9.43	-.26	.80	92	33
Robbery	36	.88	.83	1.50	-1.00	.32	97	100
Assault	36	.99	3.85	4.10	-.45	.66	69	64
Theft	37	.86	5.63	3.99	.87	.39	73	50
MVT	37	1.00	1.49	1.54	-1.00	.32	97	100
Forgery	37	.98	43.57	36.11	1.14	.26	95	0
Fraud	37	.27	4.64	1.61	.95	.35	86	20
Drug Dealing	35	.51	613.79	2134.27	-1.12	.27	89	100

*For the purpose of this analysis only the estimates include inactive ($\lambda=0$) offenders.
**Pearson product-moment correlation coefficient.

rate (1.61 compared to 4.64). The drug lambda correlated at .51, with less than half (45%) of the cases matching. Although differences in reporting might appear to cancel each other out (half reported higher estimates at T1, the other half reported higher estimates at T2), the mean indicated much higher activity measured at T2 (613 compared to 2134 crimes per year).

Hispanics: Differences in self reports of past convictions were found for Hispanics, with cases not consistent reporting higher number of convictions at T2 (see Table 8.15). The match rates for Hispanics appeared to be generally higher than those for blacks or whites, but the n is low

TABLE 8.15
LAMBDA VARIABLES: HISPANICS

Lambda*	n	r**	Mean		T-test		% Match	% Mismatch
			T^1	T^2	t	p		$T^2>T^1$
Burglary	14	-.01	1.71	6.43	-1.15	.27	79	67
Robbery	14	-.08	.07	.07	.00	1.00	86	50
Assault	14	1.00	1.07	1.07	.00	1.00	100	0
Theft	15	.99	3.96	5.52	-.80	.44	80	67
MVT	13	.68	.08	.15	-1.00	.34	92	100
Forgery	14	***	.00	.07	-1.00	.34	93	100
Fraud	15	***	.00	.07	-1.00	.33	93	100
Drug Dealing	14	.85	48.22	383.98	-.98	.35	79	67

*For the purpose of this analysis only the estimates include inactive ($\lambda=0$) offenders.
**Pearson product-moment correlation coefficient.
***Correlation coefficient can not be calculated because one of the variables is a constant.

(13-15) so these findings must be considered with caution. When cases did not match at T2, their reports of activity on the second test were generally higher (except for robbery and assault). The mean drug rate increased by about 8-fold at T2.

Blacks: This group tended to report an older age at first crime at T2 (the mean at T2 was 17.6 compared to 16.5 at T1). Also, blacks reported lower numbers of felony convictions and Colorado convictions at T2. For the seven history measures pertaining to arrests and convictions, T2 reports (as measured by the mean) were systematically lower than T1, but the linear association as measured by Pearson's r was above .7 and for five of the seven items was .9 or above. This type of pattern was not found for whites or Hispanics.

Criminal History Variables and Race

TABLE 8.16
HISTORY VARIABLES
BLACKS

Variable	n	r*	Mean		T-test		% Match	% Mismatch $T_2 > T_1$
			T_1	T_2	t	p		
Age at first								
crime	31	.93	16.48	17.55	-2.27	.03	65	91
questioned	30	.81	16.90	16.90	.00	1.00	57	54
arrest	29	.87	17.76	18.07	-.67	.51	62	64
felony								
arrest	29	.75	21.28	21.10	.19	.85	66	50
conviction	31	1.00	22.23	22.16	.53	.60	74	38
Number of								
arrests	27	.94	18.33	16.96	.99	.33	26	50
felony								
arrests	28	.72	4.96	2.96	1.92	.07	57	8
Colorado	29	.93	5.07	4.83	.40	.70	59	33
before 18	28	.83	1.96	1.21	1.53	.14	79	17
convictions	31	.99	3.87	3.55	2.16	.04	68	20
Colorado	31	.99	3.74	3.42	2.27	.03	65	18
before 18	30	.90	.73	.57	1.41	.17	83	20
adult								
prison terms	28	.89	1.57	1.68	-.83	.42	64	60
paroles	30	.95	1.30	1.47	-1.31	.20	87	75
revoked	29	1.00	.97	.97	.00	1.00	100	0
probations	31	.80	1.00	1.07	-.57	.57	71	56
revoked	31	.82	.74	.71	.33	.75	81	33

*Pearson correlation coefficient

Although there were some differences in T1 and T2 responses for blacks, the correlation coefficients were, overall, above .8 on all items except two that pertained to arrest. For these arrest items, r was between .7 and .8.

TABLE 8.17
HISTORY VARIABLES
WHITES

Variable	n	r*	Mean T_1	Mean T_2	T-test t	T-test p	% Match	% Mismatch $T_2>T_1$
Age at first								
crime	38	.96	18.16	18.39	-.58	.57	74	70
questioned	38	.91	17.24	18.34	-1.95	.06	63	79
arrest	38	.96	18.82	19.34	-1.46	.15	71	55
felony								
arrest	37	.94	21.19	21.03	.38	.71	65	38
conviction	38	.91	22.42	21.50	1.79	.08	66	38
Number of								
arrests	36	.93	9.83	9.17	.64	.53	44	40
felony								
arrests	36	.18	5.22	3.78	.85	.40	44	55
Colorado	35	.54	2.49	2.83	-.86	.40	46	53
before 18	36	.37	1.47	.44	1.31	.20	78	50
convictions	37	.90	3.11	3.49	-.85	.40	76	56
Colorado	37	.67	2.19	2.30	-.48	.63	76	44
before 18	36	.68	.44	.33	1.07	.29	83	33
adult								
prison terms	37	.89	1.60	1.70	-1.07	.29	70	64
paroles	38	.92	.74	.76	-.44	.66	87	60
revoked	35	.91	.31	.31	.00	1.00	94	50
probations	37	.61	.97	1.00	-.21	.84	68	50
revoked	35	.65	1.09	.69	.98	.33	80	43

*Pearson correlation coefficient

Whites: The five age items correlated above .9 for whites. The items measuring arrests and convictions were, in general, less reliable for this group (r ranged from .18 to .93) but reliability increased somewhat for the five items measuring adult dispositions (r ranged from .61 to .92). There were differences in responses between T1 and T2 but the differences were neither significant nor systematic in direction.

TABLE 8.18
HISTORY VARIABLES: HISPANICS

Variable	n	r*	Means		T-test		% Match	% Mismatch
			T_1	T_2	t	p		$T_2 > T_1$
Age at first								
crime	15	1.00	16.13	16.13	.00	1.00	100	0
questioned	15	.89	15.60	15.67	-.09	.93	73	50
arrest	14	.89	17.36	18.21	-1.09	.29	64	60
felony								
arrest	15	.97	20.67	20.33	.86	.40	60	50
conviction	14	.95	21.36	20.57	1.32	.21	50	29
Number of								
arrests	15	.87	9.80	10.93	-.66	.52	27	45
felony								
arrests,total	15	.94	3.47	2.93	1.37	.19	73	25
Colorado	15	.36	4.60	4.13	.25	.81	67	60
before 18	14	.88	2.50	1.79	1.07	.30	64	40
convictions,total	15	.21	2.53	3.87	-1.12	.28	80	100
Colorado	15	.17	2.40	3.73	-1.12	.28	80	100
before 18	13	1.00	1.92	1.92	.00	1.00	77	67
adult								
prison terms	13	.84	2.08	1.38	2.42	.03	38.0	13
paroles	15	.99	1.13	1.27	-1.47	.16	87	100
revoked	14	1.00	1.07	1.07	.00	1.00	100	0
probations	15	.67	1.20	1.07	.56	.58	73	50
revoked	15	.86	.80	.67	1.00	.33	73	25

*Pearson correlation coefficient

Hispanics: The reliability of the items, overall, were similar in pattern to those described above for whites. The seven items pertaining to arrest and conviction history obtained more consistent T1 and T2 responses from Hispanics than from blacks or whites, but the correlation coefficients for conviction were around .2. Overall, the measures appear fairly reliable for this group.

In sum, no statistical differences were found in 18 criminal history variables for Hispanics or whites. Differences were found for blacks on three items: age at first crime, number of adult felony convictions and number of adult felony convictions in Colorado and, perhaps most importantly, T2 age-event responses were systematically higher while the frequencies of arrests and convictions were systematically lower. This leaves unsettled the question of differential reliability as a function of race. This lack of resolution is relevant in terms of the applicability of the applicability of theory and policy based on data measures that may capture the experiences of black prisoners less reliably than it does for whites or Hispanics.

In sum, although our analysis was limited in scope, it appears the instrument acheived a fairly high level of reliability as defined by the consistency of responses across time. There were variations in the size of the correlation coefficients but the coefficients were generally high. For the items tapping the criminal career dimensions of participation and frequency, over 90% of the cases matched from one test to the next.

Generally, although self report data is "sensitive" and vulnerable to concealment, exaggeration, distortion and the falibilities of human recall, it appears that we can have confidence in our measures of offending participation and frequency. Describing findings generally consistent with those discussed here, Hindelang, Hirshi and Weis (1981:10) seem to adequately capture the research challenge in the face of inevitable skepticism about self report crime data:

> There is no easy escape through refined measurement or complex analysis. Nor does the current [set of findings] justify exclusive reliance on the beauty and clarity of deductive theorizing. As usual, the solution seems to be to continue to try to explain the data. It may well be that a complete explanation of delinquency is to be found in the difficulties we have measuring it.

SUMMARY: DATA QUALITY

In the comparisons between official record and self report data, the demographic items were most consistent. Consistency for criminal justice events improved as the event became "less ambiguous" (for example, whether or not an arrest occurred might be a more ambiguous event than whether or not a person was incarcerated). For the current crime, the consistency rate was around 50% and we suspect that self report data may be a better description than the legal charge of the behavior associated with the crime.

There were no systematic differences between men and women. Both groups reported more drug use than was recorded in the prison file, though the overall match rate for both genders was above 80%.

Importantly, it appears that data from both official records and self reports are necessary to adequately depict a criminal career since the content validity--the extent to which a measures represents a conceptual domain--may vary importantly across data sources. For this reason, we agree with Weis (1986:36) who concludes that together, official records and self reports may provide "the most adequate, complementary description of individual offending patterns in criminal career research."

The test-retest coefficients for demographics were above .9. While correlations between Time One and Time Two were fairly high overall, we again found that consistency increased as the criminal justice event became less ambiguous.

There were no differences in the mean λ rates, but correlations varied across race. For blacks, burglary correlated poorly; for whites, fraud correlated poorly. For blacks, three of 18 criminal history variables were significantly different at Time Two, and means on seven items related to arrest and conviction history were systematically lower at Time Two.

In terms of overall quality, our findings were encouraging. The comparisons with official records produced outcomes very similar to our 1986 study, and the test-retest analysis indicated consistency over time for the majority of the variables measuring crime participation and frequency. Indeed, the data appear capable of supporting the analytical conclusions we present in other chapters.

ENDNOTES--CHAPTER 8

1. All of the interviewees had reported, in the questionnaire, very high frequency crime activity (several hundred crimes per year), and this rate of activity was also consistent with information gathered during the interviews.

2. No significant differences were found in the λ estimates between the group of men for whom we collected official record data compared to those men for whom we did not.

3. This finding is consistent with Marquiz and Ebener's (1981) study of the Second Rand survey data.

APPENDIX A

PURPOSE OF THE INMATE JAIL/PRISON SURVE

Introduction Sheet

The purpose of the survey is to collect information from women who have ~~recently~~ been convicted of crimes and sentenced to the Colorado Department of Corrections. We feel that women who have actually done crimes, women who are in prisons and jails have important things to tell about crime and the criminal justice system. A lot of people have done research about crime and about how the criminal justice system operates, however we feel that there is still a big hole in most of the research. We feel that we really cannot understand crime and the criminal justice system unless we also talk to the women who are most involved in and affected by crime and criminal justice agencies.

This survey asks questions about <u>your</u> ife before you were convicted of the charge for which you are currently serving time, about crimes you committed for which you were never arrested, and about <u>your</u> opinions and perceptions about crime and the system. Official records do not provide this information. Therefore we prefer to ask you these questions directly in order to acquire precise and effective data. These questions are all printed in the booklets you have and you will answer by writing your answers in the booklet. This means that no one else will know how you answered the questions. It should take you about an hour to complete the survey and you will be paid $5.00 for doing so. In reading the questions and choosing the answers, if you should have any questions, if anything is unclear to you, raise you hand. One of us will come over and try to help clear up the question.

PURPOSE OF THE INMATE JAIL/PRISON SURVEY

Introduction Sheet
(cont)

I would like to read a description of the research and the steps we are taking in order to assure that no one else will know how you answered the questionaire. The statement I will read is printed on the form that you have attached to the envelope in front of you. After I have read it, I will answer any questions that you have. Then if you decide that you want to answer the survey you should print your name on the form you have. Then we will collect these forms and keep them seperate from the questionaire. If you don't want to take the questionaire after I have read the statement, you are free to refuse. And as I have said, if you complete the questionaire, you will recieve $5.00.

Then read the Informed Consent Form

INFORMED CONSENT FORM

This form describes the DCJ Jail/Prison Survey. It is also the form which you use to indicate that you agree to take the survey. If you agree to participate in the survey, print your name in the space on this form.

I agree to participate in a survey being conducted by the Division of Criminal Justice (DCJ). I understand that DCJ is a State agency that does research on public policy issues. I understand further that the purpose of the survey is to collect information from men who have been recently convicted and sentenced to the Colorado Department of Corrections to find out our opinions and experiences with the criminal justice system, and what are our opinions, past activities, and experiences in doing crime.

I understand that I will be given a booklet of questions to answer. The booklet has a number on it but I do not need to print my name on this booklet. I agree to print my name in the space provided on this form which has the same number as the booklet. My name may be retained for follow-up research but my name will be kept in a separate place from my answers.

I understand that DCJ will use my answers to questions in the survey booklet and the information they collect from criminal justice agencies only for the purposes of research. Federal law** requires that my answers and all of the other information collected by the researchers be kept strictly confidential.

I,_____, understand that my participation is completely voluntary.

**"No officer or employee of the Federal Government, nor any recipient of assistance under the provisions of this chapter shall use or reveal any research or statistical information furnished under the provisions of this chapter by any person for any purpose other than the purpose for which it was obtained in accordance with this chapter. Copies of such information shall be immune from legal process, and shall not, without the consent of the person furnishing such information, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceedings." (42 U.S. Code 3771(a)).

APPENDIX B

COLORADO OFFENDER SURVEY
OFFICIAL RECORD DATA ITEMS

Survey # _ _ _ _ _ _

Gender _
1 Female
2 Male

DOC # _ _ _ _ _ _

Date of Admission _ _/_ _/_ _

Type of Survey _ _ _

1st Field	2nd Field
1 Paper and Pencil	0 No Retest
2 Computer	1 P/P Retest
3 Anonymous	2 Computer Retest

DOB _ _/_ _/_ _
mm dd yy

PED _ _/_ _/_ _ _ _
mm dd yy

Name _____
(last) (first) (middle)

DEMOGRAPHICS

Ethnicity _
1 Black
2 White
3 Hispanic
4 Other _____

Marital Status at the time of the survey _
0 Never Married
1 Married
2 Divorced/Separated/Widowed

Employed at Time of Arrest? _ (0 No 1 Yes)

Claimed Educational Level _ _

Apticom Score _ _ _

CURRENT OFFENSE

Most Serious Offense (Arrest)

	Offense	Statute Code	Class	Counts
1.	_____	_ _ _ _ _ _	_	_ _
2.	_____	_ _ _ _ _ _	_	_ _
3.	_____	_ _ _ _ _ _	_	_ _

Most Serious Offense (Conviction)

	Offense	Statute Code	Class	Counts
1.	_____	_ _ _ _ _ _	_	_ _
2.	_____	_ _ _ _ _ _	_	_ _
3.	_____	_ _ _ _ _ _	_	_ _

Number of Placements for this Offense Before Prison (Community Corrections, Parole, Probation, Deferred Judgement, etc.)
_ _

Weapon Involved in Current Offense _
0 None
1 Bare Hands
2 Knife
3 Hand Gun
4 Shotgun/Rifle
5 Other _____

Behavior Severity _ _
(Use List)

Number of Accomplices _ _

Co Defendant Sentenced to Prison _
0 NA 2 Not Arrested
1 Yes 9 Missing

Weapon Present But Not Used? _
0 NA
1 No
2 Yes

Technical Violation _
0 NA
1 Probation
2 Parole
3 Comm Corr
4 Other _____

Bond Violation _
0 NA
1 FTA
2 Other _____
_____

Is the current sentence aggravated? _
0 No
1 On Probation
2 On Parole - New Crime
3 On Bond - New Crime
4 16-11-309 Violent Offense
5 Other _____

Mitigating Factors

0 1 - Passive/minor participation in crime
0 1 - Victim precipitated or provoked crime
0 1 - Substantial justification for offense
0 1 - Crime committed under duress or coersion
0 1 - No past record or long crime-free period
0 1 - Offender voluntarily acknowledges wrongdoing
0 1 - Family obligations
0 1 - Attempted to compensate victim

2nd Degree Aggravating

0 1 - Induced others in commission of offense
0 1 - Took advantage of position of trust
0 1 - Paid to do the crime
0 1 - Premeditated
0 1 - Drug-related or contraband-related
0 1 - On bond for previous felony during commission
0 1 - Increasingly serious convictions, juvenile or adult

1st Degree Aggravating Factors

0 1 - Serious bodily injury and/or high degree cruelty
0 1 - Armed with deadly weapons
0 1 - Offense involved multiple victims
0 1 - Particularly vulnerable victim
0 1 - Victim is official authority
0 1 - Pattern of violent conduct
0 1 - On parole or probation for another felony at commission
0 1 - In confinement or escape status at commission

WINDOW PERIOD

WP begins __/__ (mm yy)

Is Date of Arrest Correct? 0 1
Actual Date of Arrest __/__/__

Date of Arrest __/__ (mm yy) (date window period ends)

Total # During Window Period (include current arrest) Misd Arrests __ Felony Arrests __

ARRESTS DURING WINDOW PERIOD(most recent first)

	DATE	CRIME (use list C)	WRN	TYPE OF DISPO (use list A)	SENT LENGTH	MONTHS SERVED	ARREST CNTY (use list B)	COMMENTS
1)	__/__/__							
2)	__/__/__							
3)	__/__/__							

Under supervision during window period__
0 No
1 Probation
2 Parole
3 Comm Corr Res
4 Comm Corr Non Res
5 Bond
6 Work Release
7 Deferred Judgement

Number of months employed __

Code 0=No 1=Yes
Full time __
Part time __
Sporadic __

Number of months locked up
Prison __
Jail __
Lookout __
Hospital __
Other __

Living with __
1 Wife/Husband
2 Family Member
3 Alone
4 Other _____

Number of months living outside Colorado __

DOC TESTING

IQ Classification __

Victim Proneness __

CRIMINAL HISTORY

Date of 1st Arrest __/__/__ (mm dd yy)

Type of Arrest __
1 Traffic
2 Misd.
3 Felony

Disposition (1st Arrest) __ (Use List A)

Date 1st Felony Conv. __/__ (mm yy)

Sentence Length (in months) __

Time Served (in months) __

Number of Prior Sentenced Incarcerations (Felony) __

Total Number of Felony Arrests (up to start of window period) __

Total Number of Felony Convictions (up to start of window period) __

COLORADO RISK SCALE

Any prior conviction for burglary, robbery or theft __
- 0 No
- 1 Yes
- 9 Unknown

Number of felony convictions in this sentence __
- 0 1
- 1 2-3
- 2 4+

Serious offender classification: Do one or more of the following apply?
- 0 No
- 1 Yes
- 9 Unknown

__ Current conviction for a violent crime;
__ Current conviction for escape;
__ Prior conviction for a felony against a person in the last 5 years of street time;
__ Three or more prior arrests for: robbery, rape, felony assault, kidnap, or aggravated burglary;
__ Substance abuse history includes one of the following: PCP use, non-opiate injections or sniffing volatile substances

Present incarceration includes escape or parole violation __
- 0 No
- 1 Escape
- 2 Parole Violation

For those who have served more than 6 months:
(Code 8's for NA)

Number of disciplinary infractions __
- 0 None last 7-13 months
- 1 None last 6 months
- 2 One last 6 months
- 3 2+ last 6 months

Seriousness of disciplinary infractions during this sentence __
- 0 None or Class IIB or lower
- 1 Class IIA
- 2 Class I

Employed 50% or more of two years prior to incarceration __
- 0 No
- 1 Yes
- 9 Unknown

Ever legally married (do not count common law) __
- 0 No
- 1 Yes

Convicted of a felony before age 18 __
- 0 No
- 1 Yes

Total number of prior incarcerations to prison, jail or juvenile facility for a felony offense __
- 0 None
- 1 One
- 2 Two or more

SUBSTANCE ABUSE

(any use of the following)

Window Period	History
0 1	0 1 Valium Use
0 1	0 1 Barbituate Use
0 1	0 1 Speed Use
0 1	0 1 PCP Use
0 1	0 1 Heroin/Methadone
0 1	0 1 Glue/Paint/Fuel
0 1	0 1 Crystal
0 1	0 1 Marijuana
0 1	0 1 Downers
0 1	0 1 Psychedelics/Mushrooms/LSD
0 1	0 1 Crack Use
0 1	0 1 Cocaine Use
0 1	0 1 Alcohol Problem

Heroin Use Within Last Two Years __
- 0 No
- 1 Yes

Barbituate Use Within Last Two Years __
- 0 No
- 1 Yes

Alcohol Usage Problems __
- 0 No interference with functioning
- 1 Some disruption of functioning
- 2 Serious disruption; needs treatment

Other Drug Usage Problems __
- 0 No use
- 1 Occasional use
- 2 Frequent use

Information in file appears complete? __
- 1 Yes
- 2 Criminal History Incomp
- 3 Substance Abuse Info Incomp
- 4 No PSIR
- 5 Other_____

11/20/89

	DATE	CRIME (use list C)	WRN	TYPE OF DISPO (use list A)	SENT LENGTH	MONTHS SERVED	ARREST CNTY (use list B)	COMMENTS
4)	__/__/__	___	___	___	___	___	___	___
5)	__/__/__	___	___	___	___	___	___	___
6)	__/__/__	___	___	___	___	___	___	___
7)	__/__/__	___	___	___	___	___	___	___
8)	__/__/__	___	___	___	___	___	___	___
9)	__/__/__	___	___	___	___	___	___	___
10)	__/__/__	___	___	___	___	___	___	___
11)	__/__/__	___	___	___	___	___	___	___
12)	__/__/__	___	___	___	___	___	___	___

Mitigating Factors

- Passive/minor participation in crime
- Victim precipitated or provoked crime
- Substantial justification for offense
- Crime committed under duress or coersion
- No past record or long crime-free period
- Offender voluntarily acknowledges wrongdoing
- Family obligations
- Attempted to compensate victim

2nd Degree Aggravating Factors

- Induced others in commission of offense
- Took advantage of position of trust
- Paid to do the crime
- Premeditated
- Drug-related or contraband-related
- On bond for previous felony during commission
- Increasingly serious convictions, juvenile or adult

1st Degree Aggravating Factors

- Serious bodily injury and/or high degree cruelty
- Armed with deadly weapons
- Offense involved multiple victims
- Particularly vulnerable victim
- Victim is official authority
- Pattern of violent conduct
- On parole or probation for another felony at commission
- In confinement or escape status at commission

BEHAVIOR SEVERITY

MOST SERIOUS OFFENSE: From the most reliable source, ascertain a description of the criminal behavior involved in the commission of the current offense. Use the appropriate code below which rates the severity of the behavior. This code measures assaultive or aggressive behavior.

00 - No documentation of offensive behavior
01 - No verbal or physical aggression
02 - Verbal threats, directed at someone or other (e.g. intimidation, threatening phone calls, unlawful use of a weapon, restricting or obstructing a police officer)
03 - Non-directed physical aggression (Physical aggression directed at property rather than people)
04 - Physical aggression directed at another which includes actual minor physical or emotional harm (e.g. battery, unlawful restraint, felonious use of weapons)
05 - Death, result of negligence (e.g. reckless homicide, vehicular homicide, involuntary manslaughter)
06 - Physical aggression directed against another which includes major physical and/or emotional harm; does not include use of a weapon (e.g. incest, indecent liberties with a child)
07 - Death, direct participation by the victim (e.g. crimes of passion, voluntary manslaughter and deaths where there is evidence of provocation at the time of the commission of the offense)
08 - Aggression against another person where there is use of life-threatening force. Death is not an outcome, but there is the presence of severe trauma and/or torture, psychological or physical. (e.g. rape, deviate sexual assault, aggravated battery, kidnapping, armed robbery, home invasion, attempted murder, use of a weapon in commission of a felony against the person, aggravated incest, arson)
09 - Death by murder without aggravating circumstances, no excessive deliberate force. (Example: bank robber flees the scene and shoots bank teller)
10 - Death or severe life-threatening harm to a uniformed or known law enforcement officer
11 - Death by murder with severe trauma: actions calculated to induce terror in the victim without resulting in immediate death (e.g., clubbing, strangulation, multiple wounds)
12 - Death by murder where victim was subjected to prolonged physical/emotional pain through the use of excessive force prior to the act resulting in death.
13 - Death by murder for profit or personal gain.
14 - Multiple deaths by actions of the murders described in the preceding categories 10-13.

LIST A
DISPOSITION

01 DEFERRED JUDGEMENT
04 PENDING
05 DISMISSED
06 PROBATION
07 FINED
08 COMMUNITY CORRECTIONS
09 JAIL
10 PRISON
11 JUVENILE FACILITY
12 LICENSE SUSPENDED
13 CHARGES DISMISSED FOR PLEA IN ANOTHER CASE
14 FTA, NO ACTION TAKEN
15 OTHER

LIST B
COUNTY LIST

01 ADAMS	17 DOLORES	33 LAKE	49 PITKIN
02 ALAMOSA	18 DOUGLAS	34 LA PLATA	50 PROWERS
03 ARAPAHOE	19 EAGLE	35 LARIMER	51 PUEBLO
04 ARCHULETA	20 ELBERT	36 LAS ANIMAS	52 RIO BLANCO
05 BACA	21 EL PASO	37 LINCOLN	53 RIO GRANDE
06 BENT	22 FREMONT	38 LOGAN	54 ROUTT
07 BOULDER	23 GARFIELD	39 MESA	55 SAGUACHE
08 CHAFFEE	24 GILPIN	40 MINERAL	56 SAN JUAN
09 CHEYENNE	25 GRAND	41 MOFFAT	57 SAN MIGUEL
10 CLEAR CREEK	26 GUNNISON	42 MONTEZUMA	58 SEDGWICK
11 CONEJOS	27 HINSDALE	43 MONTROSE	59 SUMMIT
12 COSTILLA	28 HUERFANO	44 MORGAN	60 TELLER
13 CROWLEY	29 JACKSON	45 OTERO	61 WASHINGTON
14 CUSTER	30 JEFFERSON	46 OURAY	62 WELD
15 DELTA	31 KIOWA	47 PARK	63 YUMA
16 DENVER	32 KIT CARSON	48 PHILLIPS	88 OUT OF STATE
			99 UNKNOWN

INTELLIGENCE CLASSIFICATION
1 VERY SUPERIOR
2 SUPERIOR
3 HIGH AVERAGE
4 AVERAGE
5 LOW AVERAGE
6 BORDERLINE
7 MENTALLY RETARDED
8 NOT TESTED

WEAPON
0 NONE
1 BARE HANDS
2 KNIFE
3 HAND GUN
4 SHOTGUN/RIFLE
5 VEHICLE
6 OTHER

LIST C CRIME TYPE
01 ARSON
02 ASSAULT
03 AUTO THEFT/VEHICLE THEFT
04 BURGLARY
05 CHILD ABUSE
06 CRIMINAL IMPERSONATION
07 CRIMINAL MISCHIEF
08 DAJP
09 DUI/DWAI
10 DRUG POSSESSION/SALE
11 FORGERY/BAD CHECK/BAD CREDIT CARD
12 FRAUD OR SWINDLE
13 HABITUAL TRAFFIC OFFENDER
14 KIDNAPPING
15 MENACING
16 MURDER/MANSLAUGHTER
17 POSS. OR REC. STOLEN PROPERTY
18 RAPE
19 SEX OFFENSE (NOT RAPE)
20 THEFT FROM VEHICLE
21 THEFT/GT/LARCENY
22 TRESPASS
23 VICE CRIMES
24 WEAPONS CHARGE
25 ROBBERY
26 OTHER

5 ATTEMPT
6 CONSPIRACY
7 FELONY
8 MISDEMEANOR
- MS - UC

LIST A DISPOSITION
01 DEFERRED JUDGEMENT
04 PENDIING
05 DISMISSED
06 PROBATION
07 FINED
08 COMMUNITY CORRECTIONS
09 JAIL
10 PRISON
11 JUVENILE FACILITY
12 LICENSE SUSPENDED
13 CHARGES DISMISSED FOR PLEA IN ANOTHER CASE
14 FTA, NO ACTION TAKEN
15 OTHER

APPENDIX C

Survey# __ __ __ __ __

Group# __ __

Division of Criminal Justice

Colorado Offender Survey

INSTRUCTIONS

THERE ARE DIFFERENT TYPES OF QUESTIONS IN THE SURVEY

TYPE 1 FOR MOST QUESTIONS CHOOSE ONE ANSWER FROM THE CHOICES LISTED AND CHECK THE BOX NEXT TO IT. SOME QUESTIONS HAVE INSTRUCTIONS THAT SAY "MARK ALL THAT APPLY". FOR THESE CHECK THE BOXES NEXT TO ALL THE ANSWERS THAT APPLY TO YOU.

1. What sports have you ever watched on T.V?
MARK ALL THAT APPLY

- ☒ Football
- ☐ Soccer
- ☐ Auto racing
- ☒ Baseball
- ☐ Boxing
- ☒ Basketball
- ☐ Tennis
- ☒ Bicycle racing
- ☒ Other (what?) Horse Racing

TYPE 2 CIRCLE ONE ANSWER NEXT TO EACH ITEM LISTED

1. Before you were 18, did you play the following sports?
CIRCLE (YES) OR (NO)

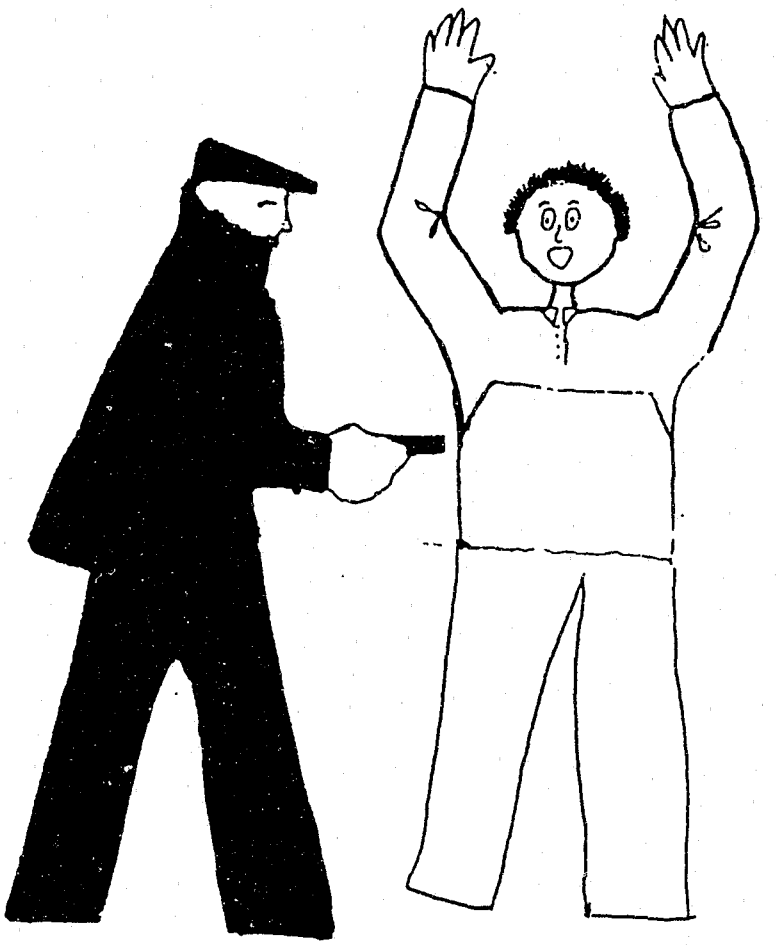
Baseball.....	(YES)	NO
Basketball.....	(YES)	NO
Football.....	YES	(NO)
Soccer.....	YES	(NO)

TYPE 3 FOLLOW ANY INSTRUCTIONS OR ARROWS NEXT TO THE ANSWER YOU CHOOSE WHICH TELL YOU TO GO TO ANOTHER PAGE.

1. Have you watched a baseball game on T.V. in the last 12 months?

☐ Yes	☐ No →	GO ON TO NEXT PAGE

THIS IS WHAT WE CALL BURGLARY. THIS INCLUDES BREAKING INTO A HOUSE OR A BUSINESS WITH THE INTENT OF TAKING SOMETHING FROM THAT HOUSE OR BUSINESS. BURGLARY REQUIRES AN UNAUTHORIZED ENTRANCE.



THIS IS WHAT WE CALL ROBBERY. THIS INCLUDES TAKING SOMETHING FROM SOMEBODY. ROBBERY CAN EITHER BE TAKING SOMETHING DIRECTLY FROM A PERSON WITHOUT USING A WEAPON, OR IT CAN BE A HOLD-UP WHERE A WEAPON IS USED TO THREATEN OR FORCE SOMEONE TO GIVE YOU SOMETHING.

The first set of questions are about your background. Please take your time and think about each of the questions.

1. How old were you when you first got involved in crime?

   _____ years old

2. Think about when you first got involved in crime. What were the main reasons that you first got involved in crime? CHECK ALL THAT APPLY

- ☐ For excitement
- ☐ Friends got me into it
- ☐ To get money for nice things
- ☐ Lost my temper
- ☐ Revenge
- ☐ To get money for drugs
- ☐ To get money to survive
- ☐ Needed money to support my family
- ☐ I was drunk
- ☐ I was high
- ☐ For the reputation
- ☐ Just a way of life
- ☐ Other (what?)_____

3. How old were you when you were first <u>questioned</u> by the police about something you did?

   _____ years old

4. How old were you when you were first <u>arrested</u> (booked) by the police?

   _____ years old

5. How old were you when you were first arrested (booked) for a felony offense (not counting traffic, petty or misdemeanor offenses)?

_____ years old — —

6. When you were first arrested (booked), what felony offense did the police charge you with?
CHECK ALL THAT APPLY

- ☐ theft/larceny — —
- ☐ burglary — —
- ☐ assault — —
- ☐ robbery — —
- ☐ kidnapping — —
- ☐ manslaughter/homicide — —
- ☐ auto theft — —
- ☐ drug sale — —
- ☐ arson — —
- ☐ forgery/fraud — —
- ☐ drug possession — —
- ☐ vice crime — —
- ☐ criminal trespass — —
- ☐ child abuse — —
- ☐ rape — —
- ☐ sex offense (not rape) — —
- ☐ none —
- ☐ other (what?) _____ —

7. Did you actually do the crime the police charged you with?

☐ Yes ☐ No —

8. Is your juvenile record sealed?

- ☐ I do not have a juvenile record
- ☐ Yes
- ☐ No —
- ☐ Don't know

9. How old were you when you were first convicted of a felony offense (not counting traffic, petty or misdemeanor offenses)?

_____ years old

10. What offense were you first convicted of? CHECK ALL THAT APPLY

- ☐ theft/larceny
- ☐ burglary
- ☐ assault
- ☐ robbery
- ☐ kidnapping
- ☐ manslaughter/homicide
- ☐ auto theft
- ☐ drug sale
- ☐ arson
- ☐ forgery/fraud
- ☐ drug possession
- ☐ vice crime
- ☐ criminal trespass
- ☐ child abuse
- ☐ rape
- ☐ sex offense (not rape)
- ☐ none
- ☐ other (what?) _____

EVERYONE IN PRISON HAS A "RAP SHEET" WHICH LISTS THE TIMES YOU HAVE BEEN ARRESTED AND CONVICTED.

11. Do you think this first felony conviction is recorded on your rap sheet?

☐ Yes ☐ No

☐ Don't know

12. What was the month and year of your first felony conviction?

_____ 19____
month year

☐ Don't know

13. Before you were 18 did you do any of the following?
MARK YES OR NO

Yes	No		
☐	☐	Broke into someplace	—
☐	☐	Stole a car	—
☐	☐	Stole something worth more than $100	—
☐	☐	Used a stolen credit card	—
☐	☐	Forged something	—

14. How old were you when you first did any of these things?

_____ years old — —

☐ Does not apply

15. Before you were 18 did you do any of the following?
MARK YES OR NO

Yes	No		
☐	☐	Robbed someone	—
☐	☐	Threatened someone with a weapon	—
☐	☐	Hurt someone with a weapon	—
☐	☐	Beat someone badly	—
☐	☐	Molested someone	—

16. How old were you when you first did any of these things?

_____ years old — —

☐ Does not apply

17. Not counting traffic violations, how many times in your life have you been arrested?

_____ Number of arrests

18. How many of these arrests were felonies? (Do not count traffic, petty or misdemeanor offenses)

_____ Number of arrests

19. How many of these felony arrests occurred in Colorado?

_____ Number of felony arrests in Colorado

20. How many of these felony arrests occurred before you were 18?

_____ Number of felony arrests before 18

21. How many times in your life have you been convicted of a felony?

_____ Number of felony convictions

22. How many of these felony convictions occurred in Colorado?

_____ Number of felony convictions in Colorado

23. How many of these felony convictions occurred before you were 18?

_____ Number of felony convictions before 18

24. Not including your present term, have you ever done time in a:
MARK YES OR NO FOR EACH

Yes	No	
☐	☐	juvenile detention center
☐	☐	training school
☐	☐	jail
☐	☐	prison
☐	☐	halfway house/community corrections

other (what?)_____

25. Including your present term, how many different terms have you served as an adult in a state or federal prison?

DO NOT COUNT REVOCATIONS FOR TECHNICAL VIOLATIONS

_____ Number of adult prison terms — —

26. Did you include your present term in this count?

☐ Yes ☐ No —

27. As an adult, how many times have you been on parole?

_____ Number of paroles — —

28. As an adult, how many times have you been on probation?

_____ Number of probations — —

29. As an adult, how many times have you had probation or parole revoked?

_____ Number of probation revocations — —

_____ Number of parole revocations — —

30. Have you ever had a driver's license?

☐ Yes ☐ No

31. Have you ever had a bank checking account?

☐ Yes ☐ No

32. How many children do you have?

_____ Number of Children

☐ Does not apply - I don't have any children → GO TO NEXT PAGE

33. What age were you when you first child was born?

_____ Years old

34. Did any of your children live with you before your current prison term?

☐ Yes ☐ No

35. If you have minor children, age 17 or younger, who is taking care of them right now?

☐ Does not apply

☐ The child's mother

☐ My wife/girlfriend

☐ My wife's/girlfriend's parents

☐ My mother

☐ My father

☐ My grandparent(s)

☐ My brother or sister

☐ My aunt or uncle

☐ Foster parents

☐ Other (who?)_____

1. What is the marital status of your parents?

- ☐ Never married
- ☐ Married to each other
- ☐ Separated from each other
- ☐ Divorced from each other
- ☐ Widowed
- ☐ Other (what?)_____

2. Have any other members of your family ever been incarcerated?
CHECK ALL THAT APPLY

- ☐ No
- ☐ Yes →

If yes, who?

- ☐ Mother
- ☐ Father
- ☐ Brother
- ☐ Sister
- ☐ Wife
- ☐ Son
- ☐ Daughter
- ☐ Other (who?)_____

_____

3. Before you were 18 did you ever run away from home?

- ☐ Yes
- ☐ No

4. Were you kicked out of the house before you were 18?

- ☐ Yes
- ☐ No

Read each of the following statements carefully. Do you AGREE or DISAGREE with the statement. CIRCLE (AGREE) OR (DISAGREE)

1. When someone gets cut or shot they deserve it.....	AGREE	DISAGREE	___
2. It is possible to get so good at crime that you'll never get caught.....	AGREE	DISAGREE	___
3. If someone only does a few crimes a year, they probably won't get caught...	AGREE	DISAGREE	___
4. If you are careful you can get away with crime.....	AGREE	DISAGREE	___
5. People would stay out of crime if sentences were longer.....	AGREE	DISAGREE	___
6. There is usually a good reason when someone gets cut or shot.....	AGREE	DISAGREE	___
7. Committing crime is pretty much a permanent way of life.....	AGREE	DISAGREE	___
8. I always knew I'd go to prison.....	AGREE	DISAGREE	___
9. Doing prison time is not so bad.....	AGREE	DISAGREE	___

1. What crime were you originally arrested for that led to this prison term?
MARK ALL THAT APPLY

- ☐ Assault/ADW
- ☐ Auto theft/Vehicle theft
- ☐ Burglary (breaking into a house or business)
- ☐ Drug Possession/sale
- ☐ Fraud or swindle (con)
- ☐ Kidnapping
- ☐ Murder/manslaughter
- ☐ Possession or receiving stolen property
- ☐ Forgery/Bad check/Bad credit card
- ☐ Robbery (taking something with force)
- ☐ Arson
- ☐ Theft from vehicle
- ☐ Vice crimes (prostitution/gambling)
- ☐ Theft/Grand theft/Larceny/Shoplift/Pick pocket
- ☐ Child abuse
- ☐ Weapons charge
- ☐ Criminal trespass
- ☐ Rape
- ☐ Sex offense (not rape)
- ☐ Didn't do a crime
- ☐ Other (what?)_____

2. Were you on probation or parole when arrested for the current crime?

☐ No

☐ Yes →

If yes, how many months were you under probation or parole supervision?

_____ Number of months

3. What crime were you originally convicted of that led to this prison term?
MARK ALL THAT APPLY

- ☐ Assault/ADW
- ☐ Auto theft/Vehicle theft
- ☐ Burglary (breaking into a house or business)
- ☐ Drug Possession/sale
- ☐ Fraud or swindle (con)
- ☐ Kidnapping
- ☐ Murder/manslaughter
- ☐ Possession or receiving stolen property
- ☐ Forgery/Bad check/Bad credit card
- ☐ Robbery (taking something with force)
- ☐ Arson
- ☐ Theft from vehicle
- ☐ Vice crimes (prostitution/gambling)
- ☐ Theft/Grand theft/Larceny/Shoplift/Pick pocket
- ☐ Child abuse
- ☐ Weapons charge
- ☐ Criminal trespass
- ☐ Rape
- ☐ Sex offense (not rape)
- ☐ Didn't do a crime
- ☐ Other (what?)_____

4. Were you on probation or parole at the time of this conviction?

☐ No

☐ Yes →

If yes, how many months were you under probation or parole supervision?

_____ Number of months

5. What crimes did you actually do that led to this prison term?
MARK ALL THAT APPLY

- ☐ Assault/ADW
- ☐ Auto theft/Vehicle theft
- ☐ Burglary (breaking into a house or business)
- ☐ Drug Possession/sale
- ☐ Fraud or swindle (con)
- ☐ Kidnapping
- ☐ Murder/manslaughter
- ☐ Possession or receiving stolen property
- ☐ Forgery/Bad check/Bad credit card
- ☐ Robbery (taking something with force)
- ☐ Arson
- ☐ Theft from vehicle
- ☐ Vice crimes (prostitution/gambling)
- ☐ Theft/Grand theft/Larceny/Shoplift/Pick pocket
- ☐ Child abuse
- ☐ Weapons charge
- ☐ Criminal trespass
- ☐ Rape
- ☐ Sex offense (not rape)
- ☐ Didn't do a crime
- ☐ Other (what?)_____

1. In the past, how successful do you think you were in doing crime?

- ☐ Very Successful
- ☐ Somewhat Successful
- ☐ Somewhat Unsuccessful
- ☐ Very Unsuccessful

2. When do you think you will be eligible for parole?

_____ _____
month year

☐ Don't know

1. How many adult felony arrests do you think are listed on your rap sheet?

_____ Total number of felony arrests listed — —

☐ Don't know

2. How many adult felony convictions do you think are listed on your rap sheet?

_____ Total number of felony convictions listed — —

☐ Don't know

3. What adult felony offenses do you think your rap sheet will show convictions for? Include all adult felony convictions

CHECK ALL THAT APPLY

☐ theft/larceny	☐ burglary	— —
☐ assault	☐ robbery	— —
☐ kidnapping	☐ manslaughter/homicide	— —
☐ auto theft	☐ drug sale	— —
☐ arson	☐ forgery/fraud	— —
☐ drug possession	☐ vice crime	— —
☐ criminal trespass	☐ child abuse	— —
☐ rape	☐ sex offense (not rape)	— —
☐ none		—

☐ other (what?) _____ —

_____

_____

_____

_____

1. Think about your arrest for the crime you are currently doing time for. What was the month and year of that arrest?

_____ 19___
month year

2. Were you ever arrested for a felony before that?

☐ Yes ☐ No → GO TO NEXT PAGE

3. What was the month and year of the last arrest that happened before the arrest for your current crime?

_____ 19___
month year

4. For your last arrest, what were you charged with?
MARK ALL THAT APPLY

☐ theft/larceny
☐ burglary
☐ assault
☐ robbery
☐ kidnapping
☐ manslaughter/homicide
☐ auto theft
☐ drug sale
☐ arson
☐ forgery/fraud
☐ drug possession
☐ vice crime
☐ criminal trespass
☐ child abuse
☐ rape
☐ sex offense (not rape)
☐ none
☐ other (what?) _____

5. How old were you at the time of your last arrest?

_____ years old

6. Do you think your last arrest is recorded on your rap sheet?

☐ Yes ☐ No

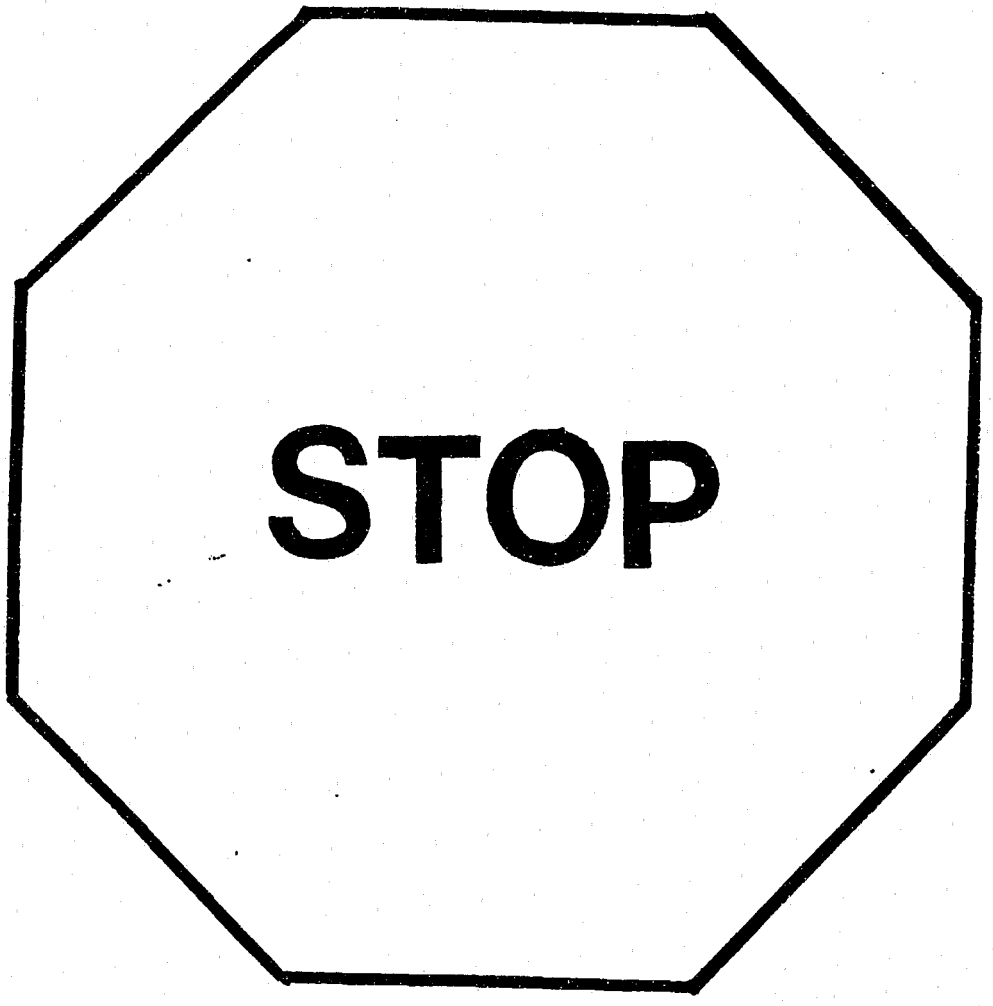
Read each item carefully and decide whether you think the statement is TRUE or FALSE. CIRCLE (TRUE) OR (FALSE)

1. I have friends because of being involved in crime.....	TRUE	FALSE	___
2. Life is more exciting when I am doing crime.....	TRUE	FALSE	___
3. I have money when I do crime.....	TRUE	FALSE	___
4. I get arrested when I am doing crime.....	TRUE	FALSE	___
5. I do crime so I can have money for nice things.....	TRUE	FALSE	___
6. In general, good things happen to me when I am doing crime.....	TRUE	FALSE	___
7. I make money when I am doing crime.....	TRUE	FALSE	___
8. There is a good chance that I will spend lots of time in prison because of crime.....	TRUE	FALSE	___
9. It's hard to have a family when you are doing crime.....	TRUE	FALSE	___
10. I will probably get killed or injured from doing crime.....	TRUE	FALSE	___
11. In general, bad things happen to me when I am doing crime.....	TRUE	FALSE	___
12. I really didn't think I'd get caught doing crime.....	TRUE	FALSE	___
13. The chances are high of getting arrested for doing crime.....	TRUE	FALSE	___
14. The chances are high of going to prison for doing crime.....	TRUE	FALSE	___
15. If you do a lot of crimes, the chances are high of getting caught.....	TRUE	FALSE	___
16. If you only do a few crimes, you probably won't get caught.....	TRUE	FALSE	___

1. The next section is about a very specific time in your life: the 12 months before you were arrested for your present prison term.

   At this point PLEASE RAISE YOUR HAND so one of the research assistants can work with you while you fill out the yellow calendar. ☐

YOU WILL NOT BE ABLE TO FILL OUT THE NEXT SECTION WITHOUT ASSISTANCE



1. During the _____ (months) street months:

a) Were you locked up for a month or more during this time?

☐ No

☐ Yes → If yes, how many months? _____ months

b) Were you ever in the military service during this time?

☐ No

☐ Yes → If yes, how many months? _____ months

c) Were you in the hospital for a month or more?

☐ No

☐ Yes → If yes, how many months? _____ months

d) Were you in school regularly during this time?

☐ No

☐ Yes → If yes, how many months? _____ months

e) Were you employed during this time?

☐ No

☐ Yes → If yes, how many months? _____ months

2. During the _____ street months:
(number of months)

a) Did you live in Colorado the whole time?

☐ Yes

☐ No →

If no, how many months did you live outside of Colorado?

_____ months

b) Did you move from one town to another during your street months?

☐ No

☐ Yes →

If yes, how many towns did you live in?

_____ towns

c) Were you receiving welfare, Aid to Families with Dependent Children (ADC or AFDC), Food Stamps, Medicaid or Social Security Supplemental?

☐ Yes ☐ No

d) Was your wife/girlfriend receiving welfare, Aid to Families with Dependent Children (ADC or AFDC), Food Stamps or Medicaid?

☐ Yes ☐ No

3. During the _____ street months:
(number of months)

a) Who were you living with for most of these months?
MARK ALL THAT APPLY

- ☐ Wife/girlfriend
- ☐ Father only
- ☐ Mother and Stepfather
- ☐ Sister/Brother
- ☐ Roommate(s)
- ☐ Military
- ☐ Friends
- ☐ Mother and Father
- ☐ Mother only
- ☐ Father and Stepmother
- ☐ Child/Children
- ☐ Alone
- ☐ Jail/Prison/ Community Corrections
- ☐ Other (who?)_____

b) During the street months, did you:
CIRCLE (YES) OR (NO)

Drink heavily?	YES	NO
Get drunk often?	YES	NO
Get high often?	YES	NO

d) During the street months, what drugs did you use?
CHECK ALL THAT APPLY

- ☐ I did not use drugs
- ☐ heroin/methadone
- ☐ uppers/"whites"/speed
- ☐ glue/paint/fuel
- ☐ crack
- ☐ crystal
- ☐ marijuana
- ☐ downers/"reds"
- ☐ angel dust/PCP
- ☐ cocaine
- ☐ psychedelics/mescaline/ mushrooms/LSD
- ☐ other (what?)_____

e) During the street months did you make money from doing crime?

- ☐ No
- ☐ Yes →

If yes, did you make enough money to live on from doing crime, or did you get money from other sources (job, family, friends, etc.)

- ☐ Made enough from crime
- ☐ Made money from other sources

f) During the street months, were some of your friends committing crimes?

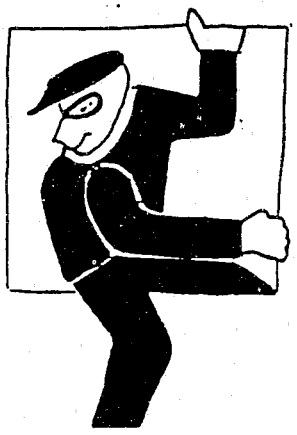
- ☐ No
- ☐ Yes, some of my friends were committing crimes during most of the street month period.
- ☐ Yes, some of my friends were committing crimes during some of the street month period.

1. How did you think of yourself during the street months on the calendar?
CHECK ALL THAT APPLY

- ☐ Car thief
- ☐ Drug dealer
- ☐ Booster
- ☐ Drug user
- ☐ Thief
- ☐ Drunk
- ☐ Alcoholic
- ☐ Misfit
- ☐ Forger
- ☐ Burglar
- ☐ Street fighter
- ☐ Violent person
- ☐ Con
- ☐ Robber
- ☐ Bad tempered
- ☐ Gang member
- ☐ Player
- ☐ Fence
- ☐ Problem drinker
- ☐ Professional criminal
- ☐ Drug addict
- ☐ Working man
- ☐ Parent
- ☐ Non criminal
- ☐ Straight
- ☐ Breadwinner
- ☐ Independent
- ☐ Neighbor
- ☐ Student
- ☐ Family man
- ☐ Athlete
- ☐ Hard worker
- ☐ Sober
- ☐ Honest
- ☐ Dependable
- ☐ Other (what?)_____

1. How many street months are shown on your calendar?

_____ Number of months



THIS IS WHAT WE CALL BURGLARY. THIS INCLUDES BREAKING INTO A HOUSE OR A BUSINESS WITH THE INTENT OF TAKING SOMETHING FROM THAT HOUSE OR BUSINESS. BURGLARY REQUIRES AN UNAUTHORIZED ENTRANCE.

2. During the street months on the calendar did you do any burglaries? Count any time that you broke into a house or a business in order to take something. Do not include breaking into a motor vehicle.

(Include the offense you are now serving time for.)

☐ Yes ☐ No → GO TO PAGE #30

3. Look at the street months on the yellow calendar. During how many of these months did you do burglaries?

_____ Number of months

4. How many burglaries did you usually do per month? _____ per month

5. Did you make good money from burglaries?

☐ Yes ☐ No

6. Did you ever break into a business or house when people were there?

☐ Yes ☐ No

7. In all, during the street months on the calendar, how many burglaries would you say you did?

☐ 1 - 5 burglaries

☐ 6 - 10 burglaries

☐ 11 - 15 burglaries

☐ 16 - 20 burglaries

☐ 21 - 30 burglaries

☐ More than 30 burglaries

8. During this time period, how many times were you arrested for burglary? (Include all the times you were arrested for burglary even if you were later charged with something else)

_____ number of arrests

9. I did burglaries because:
CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

10. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually did burglaries alone.....	TRUE	FALSE
I sometimes did burglaries with other people but it was my idea.....	TRUE	FALSE
I generally did burglaries with other people but it was <u>their</u> idea.....	TRUE	FALSE
The burglaries I did were usually planned ahead of time.....	TRUE	FALSE
I did burglaries mostly during the daytime.....	TRUE	FALSE

11. <u>In all</u>, how many burglaries do you think you did during the street months on the yellow calendar?

_____ burglaries

12. When you answered the questions above about <u>burglary</u>, did you include the times you burglarized someone you knew?

☐ I did not burglarize people I knew.

☐ Yes

☐ No →

If no, how many times did you burglarize someone you knew?

_____ burglaries

13. When you were doing burglaries, what did you think the chances were that you would get arrested?
CHECK ONE

- ☐ Low chance of arrest
- ☐ Some chance of arrest
- ☐ High chance of arrest
- ☐ Certain I would get arrested

15. During the street months on the calendar, did you ever hurt someone during a burglary?

- ☐ Yes
- ☐ No ▶ GO TO PAGE 30

16. Altogether during these months how many people did you physically hurt during a burglary?

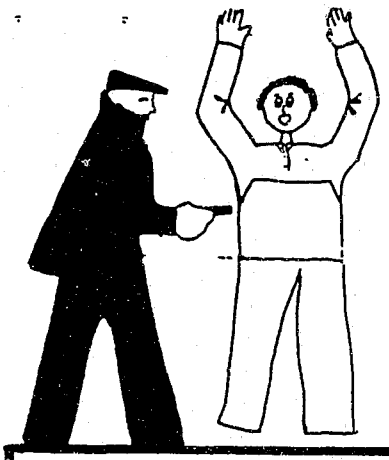
_____ People

17. What kind of weapon did you use to hurt these people?

- ☐ No weapon
- ☐ Bare hands
- ☐ Hand gun
- ☐ Knife/blade
- ☐ Rifle/Shotgun
- ☐ Other (what?)_____

18. Do you think any of the people you hurt might have died?

- ☐ No
- ☐ Yes ▶ If so, how many? _____



THIS IS WHAT WE CALL ROBBERY. THIS INCLUDES TAKING SOMETHING FROM SOMEBODY. ROBBERY CAN EITHER BE TAKING SOMETHING DIRECTLY FROM A PERSON WITHOUT USING A WEAPON, OR IT CAN BE A HOLD-UP WHERE A WEAPON IS USED TO THREATEN OR FORCE SOMEONE TO GIVE YOU SOMETHING.

1. How many street months are shown on your calendar?
   _____ Number of months

2. During the street months on the calendar did you do any robberies? That is, did you rob any business or persons?
   (Include the offenses you are now serving time for)

   ☐ Yes ☐ No → GO TO PAGE #34

3. Look at the street months on the yellow calendar. During how many of these months did you actually do robberies?

   _____ Number of months

   How many robberies did you usually do per month? _____ per month

4. What kind of business did you rob? CHECK ALL THAT APPLY

   ☐ store
   ☐ gas station
   ☐ bank
   ☐ taxi
   ☐ other (what?)_____
   ☐ I didn't rob any businesses

5. Did you rob any persons?

   ☐ Yes ☐ No → GO TO NEXT PAGE

6. Did you do any: CHECK ALL THAT APPLY

   ☐ muggings
   ☐ street robberies
   ☐ purse snatches
   ☐ hold-ups in a house or car
   ☐ other (what?)_____

7. Did you make good money from robbery?

☐ Yes ☐ No

8. In all, during the street months on the calendar, how many robberies would you say you did?

☐ 1 - 5 robberies

☐ 6 - 10 robberies

☐ 11 - 15 robberies

☐ 16 - 20 robberies

☐ 21 - 30 robberies

☐ More than 30 robberies

9. During this time period, how many times were you arrested for robbery? (Include all the times you were arrested for robbery even if you were later charged with something else.)

_____ number of arrests

10. I did robberies because:
CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

11. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually did robberies alone.....	TRUE	FALSE	—
I sometimes did robberies with other people but it was my idea.....	TRUE	FALSE	—
I generally did robberies with other people but it was <u>their</u> idea.....	TRUE	FALSE	—
The robberies I did were usually planned ahead of time.....	TRUE	FALSE	—
I did robberies mostly during the daytime.....	TRUE	FALSE	—

12. When you robbed a business how often did you carry or use a weapon?

- ☐ All of the time
- ☐ Most of the time
- ☐ About half of the time —
- ☐ Some of the time
- ☐ Once
- ☐ Never

13. What kind of weapon did you <u>usually</u> carry or use?
CHECK ALL THAT APPLY

- ☐ Never used a weapon —
- ☐ Hand gun —
- ☐ Knife/blade —
- ☐ Rifle/Shotgun —
- ☐ Other (what?)_____ —

14. <u>In all</u>, during the street months on the calendar, how many robberies do you think you did?

_____ Robberies — — —

15. When you answered the questions above about <u>robbery</u>, did you include the times you robbed someone you knew?

☐ I did not rob people I knew.

☐ Yes

☐ No → If no, how many times did you rob someone you knew?

_____ robberies

16. When you were doing robberies, what did you think the chances were that you would get arrested?

☐ Low chance of arrest

☐ Some chance of arrest

☐ High chance of arrest

☐ Certain that I would get arrested

17. During the street months on the calendar, did you ever hurt someone during a robbery?

☐ Yes

☐ No → GO TO PAGE #34

18. Altogether during these months how many people did you hurt during a robbery?

_____ People

19. What kind of weapon did you use to hurt these people?

☐ No weapon

☐ Bare hands

☐ Hand gun

☐ Knife/blade

☐ Rifle/Shotgun

☐ Other (what?)_____

20. Do you think that any of the people you hurt might have died?

☐ No

☐ Yes → If so, how many? _____

1. How many street months are shown on your calendar?
_____ Number of months

The questions on this page DO NOT include things that happened during a robbery or burglary.

2. Even if no one was hurt, during the STREET MONTHS ON THE YELLOW CALENDAR, did you have a fist fight with someone, threaten someone with a weapon, shoot at someone, try to cut someone, or beat or strangle someone?

(Include your current offense)

☐ Yes ☐ No → GO TO PAGE #37

3. Look at the street months on the yellow calendar. During how many of these months did you actually have a fist fight with someone, threaten someone with a weapon, shoot at someone, try to cut someone, or beat or strangle someone?

_____ Number of months

4. How many assaults did you usually do per month? _____ per month

5. Altogether, during the street months how many times did you fight someone, threaten someone with a weapon, shoot at someone, try to cut someone, or beat or strangle someone? (Not during a burglary or robbery)

_____ Times

6. How many people did you hurt? (Not during a burglary or robbery)

_____ People

7. Were you charged with committing manslaughter?

☐ Yes ☐ No

8. How often did you use a weapon when you fought someone, threatened someone, shot at someone, tried to cut someone, or beat or strangled someone.

- ☐ All of the time
- ☐ Most of the time
- ☐ About half of the time
- ☐ Some of the time
- ☐ Once
- ☐ Never

9. What kind of weapon did you use?
CHECK ALL THAT APPLY

- ☐ No weapon/Bare hands
- ☐ Hand gun
- ☐ Knife/blade
- ☐ Rifle/Shotgun
- ☐ Other(what?)_____

10. How many times were you arrested when you fought, threatened, shot at, tried to cut, or beat or strangled someone?

_____ Arrests

11. Do you think that any person you hurt might have died? If so, how many persons?

- ☐ No
- ☐ Yes → If so, how many? _____

12. In all, during the street months on the calendar how many times did you have a fist fight with someone, threaten someone with a weapon, shoot at someone, try to cut someone, or beat or strangle someone?

- ☐ 1 - 2 times
- ☐ 3 - 5 times
- ☐ 6 - 10 times
- ☐ 11 - 20 times
- ☐ More than 20

13. In all, how many assaults do you think you did during the street months on the yellow calendar?

_____ Number of assaults

14. When you did assaults, what did you think the chances were that you would get arrested?

- ☐ Low chance of arrest
- ☐ Some chance of arrest
- ☐ High chance of arrest
- ☐ Certain that I would get arrested

15. In answering questions on this page, did you include fights with family members?

☐ Does not apply

☐ No → If no, how many fights with family members did you have?

_____ Fights

☐ Yes → If yes, what family members were involved in the fight? CHECK ALL THAT APPLY

- ☐ wife/girlfriend
- ☐ brother
- ☐ sister
- ☐ parent
- ☐ in-law
- ☐ other (who?)_____

_____

1. How many street months are shown on your calendar?
   _____ Number of months

   DO NOT INCLUDE ANYTIME YOU STOLE THINGS DURING A ROBBERY OR BURGLARY

2. During the street months on the calendar did you do any theft or boosting worth $300 or more? That is, did you steal from a till or cash register, pick pockets, or take something from someone without their knowledge? Include breaking into a car but not vehicle theft.

   (Include the offense you are now serving time for)

   ☐ Yes ☐ No → GO TO PAGE #40

3. Look at the street months on the yellow calendar. During how many of these months did you actually do thefts over $300?

   _____ Number of months

4. How many thefts over $300 did you usually do per month? _____ per month

5. Did you make good money from these thefts?

   ☐ Yes ☐ No

6. In all, during the street months on the calendar, how many thefts over $300 would you say you did?

   ☐ 1 - 10 thefts
   ☐ 11 - 20 thefts
   ☐ 21 - 30 thefts
   ☐ 31 - 40 thefts
   ☐ 41 - 50 thefts
   ☐ More than 50 thefts

7. During this time period, how many times were you arrested for theft over $300? (include all your theft arrests even if you were charged with something else)

_____ Theft arrests

8. I did thefts over $300 because:
CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

9. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually did thefts over $300 alone..... TRUE FALSE

I sometimes did thefts with
other people but it was my idea..... TRUE FALSE

I generally did thefts with
other people but it was their idea..... TRUE FALSE

The thefts I did were usually
planned ahead of time..... TRUE FALSE

I did thefts mostly during the
daytime..... TRUE FALSE

10. In all, during the street months on the calendar, how many thefts over $300 do you think you did?

_____ Thefts

11. When you answered the questions above about <u>theft</u>, did you include the times you stole from someone you knew?

☐ I did not steal from people I knew.

☐ Yes

☐ No →

If no, how many times did you steal from someone you knew?

_____ thefts

12. When you were doing thefts, what did you think the chances were that you would get arrested?

☐ Low chance of arrest

☐ Some chance of arrest

☐ High chance of arrest

☐ Certain that I would get arrested

1. How many street months are shown on your calendar?
   _____ Number of months

2. During the street months on the calendar did you steal any cars, trucks or motorcycles?
   (Including the offense you are now serving time for)

   ☐ Yes ☐ No → GO TO PAGE #43

3. Look at the street months on the yellow calendar. During how many of these months did you actually do vehicle thefts?

   _____ Number of months

4. How many times did you steal a vehicle a month? _____ per month

5. Did you make good money from vehicle theft?

   ☐ Yes ☐ No

6. In all, during the street months on the calendar, how many motor vehicle thefts would you say you did?

   ☐ 1 - 5 vehicle thefts
   ☐ 6 - 10 vehicle thefts
   ☐ 11 - 15 vehicle thefts
   ☐ 16 - 20 vehicle thefts
   ☐ 21 - 30 vehicle thefts
   ☐ More than 30 vehicle thefts

7. During this time period, how many times were you arrested for vehicle theft? (include all the times you were arrested for motor vehicle theft even if you were later charged with something else)

_____ Arrests

8. When you stole a vehicle did you usually sell the vehicle or its parts?

☐ Yes ☐ No

9. I stole vehicles because:
CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

10. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually stole vehicles alone..... TRUE FALSE

I sometimes stole vehicles with
other people but it was my idea..... TRUE FALSE

I generally stole vehicles with
other people but it was their idea..... TRUE FALSE

The vehicle thefts I did were
usually planned ahead of time..... TRUE FALSE

I stole vehicles mostly during the
daytime..... TRUE FALSE

11. In all, how many vehicles do you think you stole during the street months on the yellow calendar?

_____ Vehicle thefts

12. When you answered the questions above about vehicle theft, did you include the times you stole a vehicle from someone you knew?

☐ I did not steal from people I knew.

☐ Yes

☐ No → If no, how many times did you steal a vehicle from someone you knew?

_____ vehicle thefts

13. When you were doing vehicle thefts, what did you think the chances were that you would get arrested?

☐ Low chance of arrest

☐ Some chance of arrest

☐ High chance of arrest

☐ Certain that I would get arrested

1. How many street months are shown on your calendar?
   _____ Number of months

2. During the street months on the calendar did you ever forge something, use a stolen or bad credit card, or pass a bad check?
   (Include the offense you are now serving time for)

   ☐ Yes ☐ No → GO TO PAGE #46

3. Look at the street months on the yellow calendar. During how many of these months did you actually forge something, use a stolen credit card, or pass bad checks?

   _____ Number of months

4. How many forgeries/cards/checks did you usually do per month?

   _____ per month

5. Did you make good money from forgeries, bad or stolen credit cards or using bad checks?

   ☐ Yes ☐ No

6. In all, during the street months on the calendar, how many times did you forge something, use a bad or stolen credit card, or pass bad checks?

   ☐ 1 - 10 forgeries/cards/checks
   ☐ 11 - 20 forgeries/cards/checks
   ☐ 21 - 30 forgeries/cards/checks
   ☐ 31 - 40 forgeries/cards/checks
   ☐ 41 - 50 forgeries/cards/checks
   ☐ More than 50 forgeries/cards/checks

7. During the street months on the yellow calendar, how many times were you arrested for forgery, using bad or stolen credit cards, or passing bad checks?

_____ Arrests

8. I did forgeries, used bad or stolen credit cards, or passed bad checks because: CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

9. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually did forgeries/cards/checks alone..... TRUE FALSE

I sometimes did forgeries/cards/checks with other people but it was my idea..... TRUE FALSE

I generally did forgeries/cards/checks with other people but it was <u>their</u> idea..... TRUE FALSE

The forgeries/cards/checks I did were usually planned ahead of time..... TRUE FALSE

10. In all, how many times did you forge something, use a bad or stolen credit card, or pass bad checks during the street months on the yellow calendar?

_____ Forgeries/Cards/Checks

11. When you were doing forgeries/cards/checks, what did you think the chances were that you would get arrested?

- ☐ Low chance of arrest
- ☐ Some chance of arrest
- ☐ High chance of arrest
- ☐ Certain that I would get arrested

12. When you answered the questions above about <u>forgery</u>, did you include the times you forged something belonging to someone you knew?

- ☐ I did not forge anything belonging to people I knew.
- ☐ Yes
- ☐ No → If no, how many times did you forge something belonging to someone you knew?

_____ forgeries

1. How many street months are shown on your calendar?
   _____ Number of months

2. During the street months on the calendar did you ever do any frauds or swindles (illegal cons) of a person, business, or the government? Include welfare and food stamp fraud.
   (Include the offense you are now serving time for)

   ☐ Yes ☐ No → GO ON TO PAGE #49

3. Look at the street months on the yellow calendar. During how many street months did you actually do a fraud or swindle?

   _____ Number of months

4. How many frauds/swindles did you usually do per month? _____ per month

5. During the street months did you make good money doing frauds and swindles?

   ☐ Yes ☐ No

6. In all, during the street months on the calendar, how many times would you say you did a fraud or swindle?

   ☐ 1 - 10 frauds or swindles
   ☐ 11 - 20 frauds or swindles
   ☐ 21 - 30 frauds or swindles
   ☐ 31 - 40 frauds or swindles
   ☐ 41 - 50 frauds or swindles
   ☐ More than 50 frauds or swindles

7. During this time period, how many times were you arrested for a fraud or swindle? (include all the times you were arrested for fraud even if you were later charged with something else)

_____ Arrests

8. I did fraud/swindles because:
CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

9. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually did frauds/swindles alone..... TRUE FALSE

I sometimes did frauds/swindles with other people but it was my idea..... TRUE FALSE

I generally did frauds/swindles with other people but it was <u>their</u> idea..... TRUE FALSE

The frauds/swindles I did were usually planned ahead of time..... TRUE FALSE

10. In all, how many times did you do a fraud or swindle during the street months on the yellow calendar?

_____ frauds or swindles

11. When you answered the questions above about frauds/swindles, did you include the times you swindled someone you knew?

☐ I did not swindle people I knew.

☐ Yes

☐ No → If no, how many times did you swindle someone you knew?

_____ frauds/swindles

12. When you were doing frauds or swindles, what did you think the chances were that you would get arrested?

☐ Low chance of arrest

☐ Some chance of arrest

☐ High chance of arrest

☐ Certain that I would get arrested

1. How many street months are shown on your calendar?
   _____ Number of months

Answer "Yes" only if you made, sold, smuggled or moved drugs. Do not include drug use.

2. During the street months on the calendar did you ever deal in drugs? That is, did you make, sell, smuggle or move drugs? (Include the offense you are now serving time for)

☐ Yes ☐ No → GO TO PAGE #52

3. Look at the street months on the yellow calendar. During how many of these months did you actually make or sell drugs?

_____ Number of months

4. How many times did you make or deal drugs a week? _____ per week

5. Did you make good money from making or dealing drugs?

☐ Yes ☐ No

6. In all, during the street months on the calendar, how many drug deals would you say you did?

☐ 1 - 50 drug deals
☐ 51 - 100 drug deals
☐ 101 - 150 drug deals
☐ 151 - 200 drug deals
☐ 201 - 250 drug deals
☐ More than 250 drug deals

7. During this time period, how many times were you arrested for making or dealing drugs? (Include all the times you were arrested for making or dealing drugs even if you were later charged with something else.)

_____ Arrests

8. I made or dealt drugs because:
CIRCLE (TRUE) OR (FALSE)

it was fun.....TRUE FALSE

to support my family.....TRUE FALSE

friends got me into it.....TRUE FALSE

it was exciting.....TRUE FALSE

I needed money for drugs.....TRUE FALSE

it didn't hurt anyone.....TRUE FALSE

I was good at it.....TRUE FALSE

there was nothing
else I could do.....TRUE FALSE

other (what?)_____

9. What kind of drugs were you making or dealing?
CHECK ALL THAT APPLY

- ☐ heroin
- ☐ methadone
- ☐ uppers
- ☐ downers
- ☐ cocaine
- ☐ marijuana
- ☐ PCP/angel dust
- ☐ crack
- ☐ psychedelics/mescaline mushrooms/LSD
- ☐ crystal
- ☐ other (what?)_____

10. In all, how many drug deals did you do during the street months on the yellow calendar?

_____ Drug deals

11. When you were making or dealing, what did you think the chances were that you would get arrested?

- ☐ Low chance of arrest
- ☐ Some chance of arrest
- ☐ High chance of arrest
- ☐ Certain that I would get arrested

1. How many street months are shown on your calendar?
   _____ Number of months

2. During the street months did you kidnap someone? That is, did you take someone by force or against their will?

   (Include the offense you are now serving time for.)

   ☐ Yes ☐ No → GO TO PAGE #54

3. How many people did you kidnap?

   _____ number of people

4. What kind of weapon did you use?

   ☐ No weapon
   ☐ Hand gun
   ☐ Knife/blade
   ☐ Rifle/Shotgun
   ☐ Other (what?) _____

5. Who did you kidnap?

   ☐ Stranger
   ☐ Child/Children
   ☐ Family member (who?) _____
   ☐ Other (who?) _____

6. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE)

I usually did this alone.....	TRUE	FALSE	___
I sometimes did this with other people but it was my idea.....	TRUE	FALSE	___
I generally did this with other people but it was <u>their</u> idea.....	TRUE	FALSE	___
The kidnappings I did were usually planned ahead of time.....	TRUE	FALSE	___

7. When you did these things, what did you think the chances were that you would get arrested?

- ☐ Low chance of arrest
- ☐ Some chance of arrest
- ☐ High chance of arrest ___
- ☐ Certain that I would get arrested

8. Did you think anyone you kidnapped might have died? ___

- ☐ No
- ☐ Yes
- ▶ If so, how many?____ ___

1. During the _____ street months on the calendar did you do crimes at a fairly regular rate? That is, did you usually commit crimes at the same rate over these months?

☐ Yes ☐ No

▶ What were the reasons you committed crimes at this rate?

_____

_____

_____

_____

1. How many months, during your street months, did you do burglaries?

_____ Number of months — —

2. In all, how many months during your street months on the yellow calendar did you do robberies?

_____ Number of months — —

3. How many months during your street months did you do any thefts?

_____ Number of months — —

4. How many months during your street months did you steal a vehicle (a car, truck or motorcycle)?

_____ Number of months — —

5. How many months during your street months did you forge something, use a stolen or bad credit card, or pass a bad check?

_____ Number of months — —

6. How many months during your street months did you do any frauds or swindles?

_____ Number of months — —

7. How many months during your street months did you make or deal drugs?

_____ Number of months — —

---

8. Did you include the offense you are presently serving time for when you answered the questions about crimes in this yellow section?

☐ Yes

☐ No —

☐ Don't know

1. The following questions will be about your street months. Think about each statement and decide if it describes the way you felt during your _____ street months.
(number of months)

2. When I was on the street:
CIRCLE (TRUE) OR (FALSE)

I tried to learn things so I could get a good job.....	TRUE	FALSE	___
I only worried about today.....	TRUE	FALSE	___
I tried to save money.....	TRUE	FALSE	___
I worried that I would get in trouble with the law.....	TRUE	FALSE	___
I worked regularly.....	TRUE	FALSE	___
I worried about having money to get by.....	TRUE	FALSE	___
When I had money I spent it to have a good time.....	TRUE	FALSE	___
I only worried about money when I needed it.....	TRUE	FALSE	___
I worried that the police would make trouble for me.....	TRUE	FALSE	___
I could only depend on myself.....	TRUE	FALSE	___

Read each of the following statements carefully. Answer each according to whether you AGREE or DISAGREE with the statement. CIRCLE (AGREE) OR (DISAGREE)

1. Even if you are good at crime you will go to prison.....	AGREE	DISAGREE	___
2. People who are good at crime never go straight.....	AGREE	DISAGREE	___
3. Because of insurance, no one is really hurt by property crimes.....	AGREE	DISAGREE	___
4. Doing prison time is not very hard.....	AGREE	DISAGREE	___
5. Crime is the easiest way to get what you want.....	AGREE	DISAGREE	___
6. Committing crime is pretty much a way of life.....	AGREE	DISAGREE	___
7. I think I will go straight after I am released from prison.....	AGREE	DISAGREE	___
8. If you do a few crimes, chances are you won't get caught.....	AGREE	DISAGREE	___

1. The following statements describe me. CIRCLE (TRUE) OR (FALSE)

I can make a good living from doing crime.....	TRUE	FALSE	___
I think I am fairly successful at crime.....	TRUE	FALSE	___
School work never interested me.....	TRUE	FALSE	___
I have plans for my life when I get out of prison.....	TRUE	FALSE	___
I did not do well in school.....	TRUE	FALSE	___
I have friends who really care about me.....	TRUE	FALSE	___
I am pretty good at crime.....	TRUE	FALSE	___
My friends are loyal to me.....	TRUE	FALSE	___

2. Would you do <u>any</u> crime, or are there some crimes you would <u>never</u> do?

☐ I would do any crime

☐ There are crimes I wouldn't do

For example,
I would never do_____

_____

_____

___

3. Would you do <u>any</u> drug, or are there some drugs you would <u>never</u> do?

☐ I would do any drug

☐ There are drugs I wouldn't do

For example,
I would never do_____

_____

_____

___

4. To me, the most important things in a job are:
CHECK ALL THAT APPLY

☐ steady work	☐ health benefits	__
☐ getting paid in cash	☐ being out of doors	__
☐ being left alone	☐ I don't like to work	__
☐ using my hands	☐ using my mind	__
☐ helping someone out	☐ making good money	__
☐ no fear of being fired	☐ short hours	__
☐ the chance to get ahead	☐ interesting work	__
☐ safe working conditions	☐ clean working conditions	__
☐ fixing or making something I'm proud of		__
☐ other (what?)_____		__

1. When I was growing up I was mostly: CIRCLE EITHER (HAPPY) OR (UNHAPPY)

HAPPY UNHAPPY

2. The worst thing that happened to me when I was growing up was:

_____

_____

_____

3. I was _____ years old then.
years

4. When I was young I got along well with my: CHECK ALL THAT APPLY

Yes	No		
☐	☐	Mother	
☐	☐	Father	
☐	☐	Brothers	☐ I did not have any brothers
☐	☐	Sisters	☐ I did not have any sisters
☐	☐	Friends	
☐	☐	Teachers	
☐	☐	No one	
☐	☐	Relative - Which relative? _____	

☐ Other (who?)_____

5. The best thing that happened to me when I was growing up was:

_____

_____

_____

6. I was _____ years old then.
years

The following statements describe me. CIRCLE (TRUE) OR (FALSE)

I am usually unsuccessful at crime.....	TRUE	FALSE	___
My looks are important to me.....	TRUE	FALSE	___
I have a hot temper.....	TRUE	FALSE	___
I can always find something interesting to do with my time...	TRUE	FALSE	___
I sell drugs to buy drugs.....	TRUE	FALSE	___
When I was in school, I was a good student.....	TRUE	FALSE	___
I got in trouble with the law when I was young.....	TRUE	FALSE	___
I get bored easily.....	TRUE	FALSE	___
I like to take risks.....	TRUE	FALSE	___
I consider myself to be good looking.....	TRUE	FALSE	___
Teachers liked me.....	TRUE	FALSE	___
I think I will be coming back to prison.....	TRUE	FALSE	___
I am a failure as a criminal.....	TRUE	FALSE	___
I think I am smarter than most people.....	TRUE	FALSE	___
I don't belong in prison.....	TRUE	FALSE	___

Who does belong in prison? _____ _____

_____

3. The following statements best describe me:
CIRCLE (TRUE) OR (FALSE) OR CIRCLE (NA) IF THE QUESTION DOES NOT APPLY TO YOU

I enjoyed school when I was young.....	TRUE	FALSE		
People told me I would end up in prison.....	TRUE	FALSE		
When I do crime I'm usually with friends.....	TRUE	FALSE		
When I do a crime I generally don't plan it.....	TRUE	FALSE		
I think I will be coming back to prison.....	TRUE	FALSE		
Drugs make my life better.....	TRUE	FALSE	NA	
When I was a teenager I was a good athlete.....	TRUE	FALSE		
Drugs make my life more exciting.....	TRUE	FALSE	NA	
My wife or girlfriend knew I was doing crimes.....	TRUE	FALSE	NA	

4. When I get out of prison, I will probably: CHECK ALL THAT APPLY

- ☐ Leave Colorado
- ☐ Do crimes
- ☐ Get a job
- ☐ Go straight
- ☐ Get a girlfriend and settle down
- ☐ Get in trouble
- ☐ Go to school
- ☐ Join my family
- ☐ Live on the street
- ☐ other (what?) _____

YOU WILL NEED YOUR YELLOW CALENDAR FOR THE QUESTIONS ON THIS AND THE NEXT PAGE.

1. During the street months on the yellow calendar that we asked you about earlier, which of the following crimes did you do?

☐ theft/larceny	☐ burglary	__
☐ assault	☐ robbery	__
☐ kidnapping	☐ manslaughter/homicide	__
☐ auto theft	☐ drug sale	__
☐ arson	☐ forgery/fraud	__
☐ drug possession	☐ vice crime	__
☐ criminal trespass	☐ child abuse	__
☐ rape	☐ sex offense (not rape)	__
☐ none		_
☐ other (what?) _____		_

2. Which of the following crimes were you arrested for?

☐ theft/larceny	☐ burglary	__
☐ assault	☐ robbery	__
☐ kidnapping	☐ manslaughter/homicide	__
☐ auto theft	☐ drug sale	__
☐ arson	☐ forgery/fraud	__
☐ drug possession	☐ vice crime	__
☐ criminal trespass	☐ child abuse	__
☐ rape	☐ sex offense (not rape)	__
☐ none		_
☐ other (what?) _____		_

3. In summary, during the street months on the yellow calendar, how many times did you do the following crimes?

CIRCLE THE NUMBER OF TIMES YOU DID THE FOLLOWING CRIMES DURING THE STREET MONTHS ON THE YELLOW CALENDAR

Burglary	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Robbery	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Assault	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Theft	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Auto theft/Motor vehicle theft	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Forgery/Bad credit card/Bad check	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Fraud/Swindle	0/NA	1-2	3-5	6-10	11-20	21-30	More than 30
Make or Deal Drugs	0/NA	1-25	26-50	51-100	101-150	151-200	More than 200

4. During the street months on the yellow calendar, did you do crimes to get money for drugs?

☐ Yes ☐ No

1. What is your date of birth? __ __/ __ __/ 19__ __
   month day year

2. That makes you how old now?

   _____ years old

3. What is your race?

   ☐ Black

   ☐ White

   ☐ Hispanic/Mexican or Spanish American

   ☐ Other? _____

4. Do you have a high school diploma or a GED?

   ☐ Neither

   ☐ Finished High School

   ☐ GED

5. What is the highest grade you finished in school?

   _____ grade

6. At the present time, are you:
   CHECK ONE

   ☐ Married

   ☐ Common law

   ☐ Widowed

   ☐ Divorced

   ☐ Separated

   ☐ Never Married

7. How many times have you been married?

   ☐ Never OR _____ Times

APPENDIX D

WILCOXIN TESTS: ORDINAL COMPARED TO CONTINUOUS FORMATS

A= PRODUCT
B= ORDINAL

	CONFIDENTIAL MEN	SHORT VERSION	ANONYMOUS MEN	WOMEN
BURGLARY				
# SAMPLED	n=181	n=45	n=35	n=9
% TIED	91.4	91.8	86.5	100.0
% A<B	4.8	6.1	8.1	0
% B<A	3.8	2.1	5.4	0
TOTAL	100.0	10.0	100.0	100.0
Z	-.3878	-.9129	-.5394	.0000
p	.6982	.3613	.5896	1.000
ROBBERY				
# SAMPLED	n=98	n=21	n=9	n=9
% TIED	89.8	81.0	100.0	90.9
% A<B	6.1	9.5	0	9.1
% B<A	4.1	9.5	0	0
TOTAL	100.0	100.0	100.0	100.0
Z	-.9683	.0000	.0000	-1.000
p	.3329	1.000	1.000	.3173
ASSAULT				
# SAMPLED	n=218	n=63	n=47	n=26
% TIED	82.4	82.5	78.0	81.5
% A<B	9.0	11.1	16.0	14.8
% B<A	8.6	6.4	6.0	3.7
TOTAL	100.0	100.0	100.0	100.0
Z	-.8747	-1.156	-1.334	-1.483
p	.3817	.2477	.1823	.1380
THEFT				
# SAMPLED	n=159	n=44	n=28	n=26
% TIED	83.8	83.3	82.1	75.9
% A<B	8.4	12.5	10.7	17.2
% B<A	7.8	4.2	7.2	6.9
TOTAL	100.0	100.0	100.0	100.0
Z	-.5165	-.9802	-.6742	-.5916
p	.6055	.3270	.5002	.5541

MV THEFT				
# SAMPLED	n=89	n=32	n=17	n=7
% TIED	90.4	91.2	95.0	85.7
% A<B	3.2	5.9	5.0	14.3
%B<A	6.4	2.9	0	0
TOTAL	100.0	100.0	100.0	100.0
Z	-.5923	.0000	-1.000	-1.000
p	.5536	1.000	.3173	.3173
FORGERY				
# SAMPLED	n=109	n=21	n=16	n=36
% TIED	87.7	95.2	87.5	88.9
% A<B	7.9	4.8	12.5	11.1
% B<A	4.4	0	0	0
TOTAL	100.0	100.0	100.0	100.0
Z	-.0314	-1.000	-1.342	-1.826
p	.9750	.3173	.1797	.0679
FRAUD				
# SAMPLED	n=58	n=13	n=6	n=7
% TIED	82.0	92.3	100.0	85.7
% A<B	9.8	7.7	0	0
% B<A	8.2	0	0	14.3
TOTAL	100.0	100.0	100.0	100.0
Z	-.2667	-1.000	.0000	-1.000
p	.7897	.3173	1.000	.3173
DRUGS				
# SAMPLED	n=219	n=71	n=43	n=27
% TIED	80.2	30.5	72.1	58.1
% A<B	15.5	64.6	23.3	35.5
% B<A	4.3	4.9	4.6	6.4
TOTAL	100.0	100.0	100.0	100.0
Z	-3.633	-5.558	-1.765	-2.621
p	.0003	.0000	.0776	.0088

WILCOXIN TESTS: ORDINAL COMPARED TO PRODUCT FORMATS

A= PRODUCT
B= ORDINAL

	CONFIDENTIAL MEN	SHORT VERSION	ANONYMOUS MEN	WOMEN
BURGLARY				
# SAMPLED	n=181	n=45	n=35	n=9
% TIED	81.8	86.7	85.7	77.8
% A<B	4.4	4.4	5.7	22.2
% B<A	13.8	8.9	8.6	0
TOTAL	100.0	100.0	100.0	100.0
Z	-2.671	-1.363	-.9439	-1.342
p	.0076	.1730	.3452	.1797
ROBBERY				
# SAMPLED	n=89	n=19	n=9	n=9
% TIED	80.9	68.4	100.0	88.9
% A<B	6.7	10.5	0	11.1
% B<A	12.4	21.1	0	0
TOTAL	100.0	100.0	100.0	100.0
Z	-1.397	-.6290	.000	-1.000
p	.1626	.5294	1.0000	.3173
ASSAULT				
# SAMPLED	n=217	n=63	n=46	n=26
% TIED	73.3%	73.0	71.7	73.1
% A<B	11.5%	11.1	10.9	26.9
% B<A	15.2%	15.9	17.4	0
TOTAL	100.0	100.0	100.0	100.0
Z	-1.192	-.9704	-1.433	-2.366
p	.2331	.3318	.1520	.0180
THEFT				
# SAMPLED	n=162	n=44	n=28	n=30
% TIED	69.8	77.3	67.8	76.7
% A<B	11.7	6.8	14.3	20
% B<A	18.5	15.9	17.9	3.3
TOTAL	100.0	100.0	100.0	100.0
Z	-2.004	-1.376	-.8293	-1.944
p	.0450	.1688	.4069	.0519

MV THEFT				
# SAMPLED	n=89	n=33	n=17	n=7
% TIED	85.4	81.8	82.3	42.8
% A<B	6.7	6.1	5.9	28.6
%B<A	7.9	12.1	11.8	28.6
TOTAL	100.0	100.0	100.0	100.0
Z	.0000	-.5241	-.8018	-.1826
p	1.000	.6002	.4227	.8551
FORGERY				
# SAMPLED	n=112	n=20	n=17	n=36
% TIED	83.0	75.0	88.2	86.1
% A<B	4.5	5.0	11.8	0
% B<A	12.5	20.0	0	13.9
TOTAL	100.0	100.0	100.0	100.0
Z	-2.073	-1.214	-1.3416	-2.023
p	.0382	.2249	.1797	.0431
FRAUD				
# SAMPLED	n=59	n=13	n=5	n=7
% TIED	72.9	61.5	80.0	71.4
% A<B	3.4	23.1	20.0	0
% B<A	23.7	15.4	0	28.6
TOTAL	100.0	100.0	100.0	100.0
Z	-2.999	-.8090	-1.000	-1.342
p	.0027	.4185	.3173	.1797
DRUGS				
# SAMPLED	n=233	n=71	n=44	n=31
% TIED	51.1	46.5	54.5	48.4
% A<B	46.8	45.1	45.5	48.4
% B<A	2.1	8.4	0	3.2
TOTAL	100.0	100.0	100.0	100.0
Z	-8.549	-4.061	-3.919	-3.387
p	.0000	.0000	.0001	.0007

WILCOXIN TEST: PRODUCT COMPARED TO CONTINUOUS FORMATS

A= CONTINUOUS (collapsed)
B= ORDINAL

	CONFIDENTIAL MEN	SHORT VERSION	ANONYMOUS MEN	WOMEN
BURGLARY				
# SAMPLED	n=181	n=45	n=35	n=9
% TIED	55.8	42.2	48.6	55.6
% A<B	29.3	31.1	22.8	44.4
% B<A	14.9	26.7	28.6	0
TOTAL	100.0	100.0	100.0	100.0
Z	-3.688	-.076	-1.916	-1.826
p	.0002	.9393	.0553	.0679
ROBBERY				
# SAMPLED	n=89	n=18	n=9	n=9
% TIED	59.6	55.6	100.0	55.6
% A<B	19.1	22.2	0	22.2
% B<A	21.3	22.2	0	22.2
TOTAL	100.0	100.0	100.0	100.0
Z	-4.64	-.350	.000	-.356
p	.6430	.7263	1.0000	.7150
ASSAULT				
# SAMPLED	n=218	n=65	n=47	n=26
% TIED	54.6	41.5	40.4	42.3
% A<B	28.0	21.5	17.0	26.9
% B<A	17.4	37.0	42.6	30.8
TOTAL	100.0	100.0	100.0	100.0
Z	-1.358	-1.291	-2.562	-4.26
p	.1746	.1968	.0104	.6701
THEFT				
# SAMPLED	n=159	n=20.5	n=28	n=26
% TIED	47.2	20.5	39.3	27.0
% A<B	32.7	34.1	21.4	19.2
% B<A	20.1	45.4	39.3	53.8
TOTAL	100.0	100.0	100.0	100.0
Z	-2.841	-1.302	-1.255	-1.610
p	.0045	.1929	.2097	.1075

MV THEFT				
# SAMPLED	n=89	n=32	n=17	n=7
% TIED	67.4	56.2	70.6	42.8
% A<B	12.4	31.3	5.9	28.6
% B<A	20.2	12.5	23.5	28.6
TOTAL	100.0	100.0	100.0	100.0
Z	-.681	-.910	-1.753	-.365
p	.4958	.3627	.0796	.7150
FORGERY				
# SAMPLED	n=109	n=20	n=16	n=34
% TIED	44.0	35.0	68.7	44.1
% A<B	34.9	10.0	18.8	17.7
%B<A	21.1	55.0	12.5	38.2
TOTAL	100.0	100.0	100.0	100.0
Z	-1.968	-1.817	-.405	-2.475
p	.0491	.0692	.6858	.0133
FRAUD				
# SAMPLED	n=58	n=13	n=6	n=7
% TIED	39.7	38.4	16.7	28.6
% A<B	36.2	30.8	16.7	28.6
% B<A	24.1	30.8	66.6	42.8
TOTAL	100.0	100.0	100.0	100.0
Z	-2.097	-.420	-1.483	-.674
p	.0360	.1380	.1380	.5002
DRUGS				
# SAMPLED	n=219	n=71	n=42	n=27
% TIED	8.2	0	2.4	0
% A<B	21.5	21.1	73.8	66.7
% B<A	70.3	78.9	23.8	33.3
TOTAL	100.0	100.0	100.0	100.0
Z	-6.411	-3.690	-2.585	-1.478
p	.0000	.0002	.0097	.1395

APPENDIX E

CURRENT CONVICTION VARIABLES

Variable	n	Correlation r	Correlation Phi	Means T_1	Means T_2	T-test t	T-test p	% Match	% Mismatch $T_2 > T_1$
Months under correctional supervision (bond, parole, probation) at:									
Current arrest	77	.68	----	6.66	3.58	2.45	.02	83	15
Current conviction	72	.90	----	5.40	3.86	2.26	.03	85	18
Current arrest for:									
Assault	85	----	.71	----	----	----	----	92	----
MVT	85	----	.70	----	----	----	----	98	----
Burglary	85	----	.63	----	----	----	----	88	----
Drug possession	85	----	.96	----	----	----	----	99	----
Fraud	85	----	.49	----	----	----	----	95	----
Kidnapping	85	----	.81	----	----	----	----	98	----
Murder	85	----	1.00	----	----	----	----	100	----
stolen property	85	----	.33	----	----	----	----	95	----
Forgery/check card	85	----	.78	----	----	----	----	96	----
Robbery	85	----	.82	----	----	----	----	95	----
Arson	85	----	**	----	----	----	----	99	----
Theft from MV	85	----	.31	----	----	----	----	95	----
Vice	85	----	1.00	----	----	----	----	100	----
Theft	85	----	.50	----	----	----	----	92	----
Child abuse	85	----	.49	----	----	----	----	98	----
Weapons	85	----	.69	----	----	----	----	95	----
Trespass	85	----	.73	----	----	----	----	94	----
Rape	85	----	1.00	----	----	----	----	100	----
Sex offense	85	----	1.00	----	----	----	----	100	----
No crime	85	----	**	----	----	----	----	99	----
Other	85	----	.69	----	----	----	----	93	----

"Actually Did"									
Assault	84	---	.68	---	---	---	---	92	---
MVT	84	---	1.00	---	---	---	---	100	---
Burglary	84	---	.63	---	---	---	---	89	---
Drug Possession	84	---	.76	---	---	---	---	93	---
Fraud	84	---	.49	---	---	---	---	95	---
Kidnapping	84	---	.49	---	---	---	---	96	---
Murder	84	---	1.00	---	---	---	---	100	---
Stolen property	84	---	.40	---	---	---	---	94	---
Forgery/check card	84	---	.78	---	---	---	---	96	---
Robbery	84	---	.82	---	---	---	---	96	---
Arson	84	---	**	---	---	---	---	99	---
Theft from MV	84	---	.33	---	---	---	---	95	---
Vice	84	---	**	---	---	---	---	99	---
Theft	84	---	.82	---	---	---	---	96	---
Child Abuse	84	---	1.00	---	---	---	---	100	---
Weapons	84	---	.49	---	---	---	---	95	---
Trespass	84	---	.62	---	---	---	---	92	---
Rape	84	---	.65	---	---	---	---	98	---
Sex offense	84	---	.71	---	---	---	---	96	---
No crime	84	---	.52	---	---	---	---	94	---
Other	84	---	.53	---	---	---	---	88	---
Supervision at									
arrest	80	---	.71	---	---	---	---	88	---
conviction	75	---	.78	---	---	---	---	91	---

*Pearson product-moment correlation coefficient
**No one responded yes at both time one and time two

SELF- CONCEPT VARIABLES

Variable	n	Phi	% Match
Happy growing up?	79	.67	87
Car thief?	84	1.00	100
Working man?	84	.66	85
Drug dealer?	84	.81	94
Parent?	84	.86	94
Booster?	84	.03	93
Non criminal?	84	.49	79
Drug user?	84	.72	90
Straight?	84	.66	87
Bread winner?	84	.49	85
Drunk?	84	.73	95
Independent?	84	.52	77
Alcoholic?	84	.80	94
Neighbor?	84	.59	85
Misfit?	84	.49	95
Student?	84	.29	94
Forger?	84	.70	98
Family man?	84	.55	80
Burglar?	84	.69	95
Athlete?	84	.56	86
Street fighter?	84	.67	94
hard worker?	84	.67	83
Violent person?	84	.52	94
Sober?	84	.74	92
Con?	84	.72	94
Honest?	84	.63	82

Variable	n	Phi	% Match
Robber?	84	.83	98
Dependable?	84	.55	77
Bad tempered?	84	.40	87
Gang member?	84	.59	95
Player?	84	.67	92
Fence?	84	.48	95
Problem drinker?	84	.79	93
Professional criminal?	84	.49	92
Drug addict?	84	.80	95
Other?	84	1.00	100

APPENDIX F

LAMBDA INDIVIDUAL VARIABLES
WHITES

Variable	n	Correlation		Mean		T-test		% Match	% Mismatch
		r	Phi	T_1	T_2	t	p		$T_2 > T_1$
Did Burglaries	38	----	1.00	----	----	----	----	100	----
# months	38	.97	----	1.03	1.00	.24	.81	92	33
# /month	38	1.00	----	3.00	3.05	-1.00	.32	97	100
Did Robberies	38	----	1.00	----	----	----	----	100	----
# months	38	.85	----	.29	.47	-1.00	.32	97	100
# /month	37	1.00	----	.27	.27	.00	1.00	100	0
Did Assaults	38	----	.70	----	----	----	----	87	----
# months	36	.81	----	.94	1.22	-.95	.35	75	56
# /month	37	.85	----	.65	.54	.78	.44	78	50
Did Theft	38	----	.71	----	----	----	----	89	----
# months	38	.93	----	.95	1.16	-1.24	.22	79	75
# /month	38	.77	----	.79	.53	1.35	.19	79	38
Did MVT	38	----	1.00	----	----	----	----	100	----
# months	38	1.00	----	.47	.50	-1.00	.32	97	100
# /month	38	1.00	----	.21	.21	.00	1.00	100	0
Did Forgeries	38	----	1.00	----	----	----	----	100	----
# months	38	.89	----	.50	.37	.96	.34	92	33
# /month	38	.94	----	5.16	3.79	1.04	.31	95	0
Did Fraud	38	----	.90	----	----	----	----	97	----
# months	38	.94	----	1.18	.90	1.54	.13	92	0
# /month	38	.43	----	.47	.18	1.13	.27	89	25
Did Drug Deals	38	----	1.00	----	----	----	----	100	----
# months	38	.99	----	2.79	2.84	-.39	.70	92	67
#/week	36	.51	----	11.64	40.25	-1.12	.27	92	100

Variable	n	Correlation		Means		T-test		% Match	% Mismatch $T_2>T_1$
		r*	Phi	T_1	T_2	t	p		
Number of months									
Locked up	37	1.00	----	.95	.89	1.43	.16	95	0
Hospitalized	37	**	----	.00	.05	-1.00	.32	97	100

*Pearson product-moment correlation coefficient
**Correlation coefficient can not be calculated because one of the variables is a constant.

LAMBDA INDIVIDUAL VARIABLES
HISPANICS

Variable	n	Correlation		Mean		T-test		%	% Mismatch
		r	Phi	T_1	T_2	t	p	Match	$T_2>T_1$
Did Burglaries	15	---	.71	---	---	---	---	87	---
# months	15	.85	---	.40	.67	-1.74	.10	80	100
# /month	14	.26	---	.36	.93	-1.26	.23	79	67
Did Robberies	15	---	.42	---	---	---	---	87	---
# months	14	-.08	---	.07	.07	.00	1.00	86	50
# /month	14	-.08	---	.07	.07	.00	1.00	86	50
Did Assaults	15	---	1.00	---	---	---	---	100	---
# months	15	.80	---	1.07	1.67	-1.00	.33	93	100
# /month	14	1.00	---	.21	.21	.00	1.00	100	0
Did Theft	15	---	.42	---	---	---	---	87	---
# months	15	.95	---	.33	.40	-.56	.58	80	67
# /month	15	.99	---	.73	1.07	-.96	.35	80	67
Did MVT	15	---	.58	---	---	---	---	87	---
# months	13	.68	---	.08	.15	-1.00	.34	92	100
# /month	14	.78	---	.14	.21	-1.00	.34	93	100
Did Forgeries	15	---	**	---	---	---	---	87	---
# months	14	**	---	.00	.07	-1.00	.34	93	100
# /month	14	**	---	.00	.07	-1.00	.34	93	100
Did Fraud	15	---	**	---	---	---	---	93	---
# months	15	**	---	.00	.07	-1.00	.33	93	100
# /month	15	**	---	.00	.07	-1.00	.33	93	100
Did Drug Deals	15	---	.85	---	---	---	---	93	---
# months	14	.94	---	.57	.79	-1.38	.19	86	100
#/week	15	.35	---	2.40	7.80	-.86	.41	80	33

Variable	n	Correlation		Means		T-test		% Match	% Mismatch
		r*	V**	T_1	T_2	t	p		$T_2>T_1$
Number of months									
Locked up	15	.87	----	2.07	1.40	1.40	.18	80	0
Hospitalized	15	**	----	.07	.00	1.00	.33	93	0

*Pearson product-moment correlation coefficient
**Correlation coefficient can not be calculated because one of the variables is a constant.

LAMBDA INDIVIDUAL VARIABLES
BLACKS

Variable	n	Correlation		Mean		T-test		% Match	% Mismatch
		r	Phi	T_1	T_2	t	p		$T_2 > T_1$
Did Burglaries	31	----	.76	----	----	----	----	94	----
# months	31	.96	----	.29	.52	-.98	.34	90	67
# /month	31	.94	----	.84	.97	-.51	.61	87	50
Did Robberies	31	----	.88	----	----	----	----	97	----
# months	31	.90	----	.29	.29	.00	1.00	87	50
# /month	29	1.00	----	.55	.52	1.00	.33	97	0
Did Assaults	31	----	.66	----	----	----	----	84	----
# months	30	.81	----	.73	.43	1.87	.07	77	14
# /month	29	.91	----	.66	.45	1.80	.08	69	22
Did Theft	31	----	.91	----	----	----	----	97	----
# months	29	.94	----	.35	.28	.81	.42	90	33
# /month	30	.92	----	.73	.43	1.56	.13	90	0
Did MVT	31	----	.70	----	----	----	----	97	----
# months	31	.70	----	.06	.03	1.00	.33	97	0
# /month	31	1.00	----	.84	.81	1.00	.33	97	0
Did Forgeries	31	----	.63	----	----	----	----	94	----
# months	31	.92	----	.16	.19	-.57	.57	90	67
# /month	31	1.00	----	1.77	1.45	.99	.33	90	33
Did Fraud	31	----	1.00	----	----	----	----	100	----
# months	31	1.00	----	.55	.48	1.00	.33	97	0
# /month	31	.97	----	3.00	3.48	-.44	.66	94	50
Did Drug Deals	30	----	.89	----	----	----	----	97	----
# months	29	.96	----	.97	.93	.23	.82	90	33
#/week	29	.25	----	8.07	12.14	-.46	.65	90	67

Variable	n	Correlation		Means		T-test		%	% mismatch
		r*	Phi	T_1	T_2	t	p	Match	$T_2 > T_1$
Number of months									
Locked up	30	.77	----	2.83	3.07	-.31	.76	67	30
Hospitalized	30	**	----	.10	.00	1.00	.33	97	0

*Pearson product-moment correlation coefficient

**Correlation coefficient can not be calculated because one of the variables is a constant

LAMBDA VARIABLES
WHITES

Lambda*	n	r**	Mean		T-test		% Match	% Mismatch
			T_1	T_2	t	p		$T2>T_1$
Burglary	37	.97	9.10	9.43	-.26	.80	92	33
Robbery	36	.88	.83	1.50	-1.00	.32	97	100
Assault	36	.99	3.85	4.10	-.45	.66	69	64
Theft	37	.86	5.63	3.99	.87	.39	73	50
MVT	37	1.00	1.49	1.54	-1.00	.32	97	100
Forgery	37	.98	43.57	36.11	1.14	.26	95	0
Fraud	37	.27	4.64	1.61	.95	.35	86	20
Drugs	35	.51	613.79	2134.27	-1.12	.27	89	100

*For the purpose of this analysis only the estimates include inactive (=0) offenders.
**Pearson product-moment correlation coefficient

LAMBDA VARIABLES
HISPANICS

Lambda*	n	r**	Mean		T-test		% Match	% Mismatch
			T_1	T_2	t	p		$T_2>T_1$
Burglary	14	-.01	1.71	6.43	-1.15	.27	79	67
Robbery	14	-.08	.07	.07	.00	1.00	86	50
Assault	14	1.00	1.07	1.07	.00	1.00	100	0
Theft	15	.99	3.96	5.52	-.80	.44	80	67
MVT	13	.68	.08	.15	-1.00	.34	92	100
Forgery	14	***	.00	.07	-1.00	.34	93	100
Fraud	15	***	.00	.07	-1.00	.33	93	100
Drugs	14	.85	48.22	383.98	-.98	.35	79	67

*For the purpose of this analysis only the estimates include inactive (I=0) offenders.
**Pearson product-moment correlation coefficient
***Correlation coefficient can not be calculated because one of the variables is a constant.

LAMBDA VARIABLES
BLACKS

Lambda*	n	r**	Mean		T-test		% Match	% Mismatch $T_2 > T_1$
			T_1	T_2	t	p		
Burglary	30	.78	6.40	11.27	-.95	.35	87	50
Robbery	28	.91	.82	.96	-.46	.65	89	33
Assault	27	.87	4.25	1.85	1.98	.06	67	22
Theft	27	.99	6.07	2.79	1.39	.18	85	25
MVT	30	1.00	10.03	10.00	1.00	.33	97	0
Forgery	30	1.00	2.50	1.90	1.42	.17	87	25
Fraud	30	1.00	26.13	27.77	-.44	.66	90	33
Drugs	27	.39	136.01	419.65	-.94	.35	89	67

*For the purpose of this analysis only the estimates include inactive (=0) offenders.
**Pearson product-moment correlation coefficient

HISTORY VARIABLES
WHITES

Variable	n	r*	Means T_1	Means T_2	T-test t	T-test p	% Match	% Mismatch $T_2 > T_1$
Age of first								
crime	38	.96	18.16	18.39	-.58	.57	74	70
questioned	38	.91	17.24	18.34	-1.95	.06	63	79
arrest	38	.96	18.82	19.34	-1.46	.15	71	55
felony								
arrest	37	.94	21.19	21.03	.38	.71	65	38
conviction	38	.91	22.42	21.50	1.79	.08	66	38
Number of								
arrests	36	.93	9.83	9.17	.64	.53	44	40
felony								
arrests	36	.18	5.22	3.78	.85	.40	44	55
Colorado	35	.54	2.49	2.83	-.86	.40	46	53
before 18	36	.37	1.47	.44	1.31	.20	78	50
convictions	37	.90	3.11	3.49	-.85	.40	76	56
Colorado	37	.67	2.19	2.30	-.48	.63	76	44
before 18	36	.68	.44	.33	1.07	.29	83	33
adult								
prison terms	37	.89	1.60	1.70	-1.07	.29	70	64
paroles	38	.92	.74	.76	-.44	.66	87	60
revoked	35	.91	.31	.31	.00	1.00	94	50
probations	37	.61	.97	1.00	-.21	.84	68	50
revoked	35	.65	1.09	.69	.98	.33	80	43

*Pearson product-moment correlation coefficient

HISTORY VARIABLES
HISPANICS

Variable	n	r*	Means		T-test		% Match	% Mismatch
			T_1	T_2	t	p		$T_2 > T_1$
Age of first								
crime	15	1.00	16.13	16.13	.00	1.00	100	0
questioned	15	.89	15.60	15.67	-.09	.93	73	50
arrest	14	.89	17.36	18.21	-1.09	.29	64	60
felony								
arrest	15	.97	20.67	20.33	.86	.40	60	50
conviction	14	.95	21.36	20.57	1.32	.21	50	29
Number of								
arrests	15	.87	9.80	10.93	-.66	.52	27	45
felony								
arrests	15	.94	3.47	2.93	1.37	.19	73	25
Colorado	15	.36	4.60	4.13	.25	.81	67	60
before 18	14	.88	2.50	1.79	1.07	.30	64	40
convictions	15	.21	2.53	3.87	-1.12	.28	80	100
Colorado	15	.17	2.40	3.73	-1.12	.28	80	100
before 18	13	1.00	1.92	1.92	.00	1.00	77	67
adult								
prison terms	13	.84	2.08	1.38	2.42	.03	38.0	13
paroles	15	.99	1.13	1.27	-1.47	.16	87	100
revoked	14	1.00	1.07	1.07	.00	1.00	100	0
probations	15	.67	1.20	1.07	.56	.58	73	50
revoked	15	.86	.80	.67	1.00	.33	73	25

*Pearson product-moment correlation coefficient

HISTORY VARIABLES
BLACKS

Variable	n	r*	Means T_1	Means T_2	T-test t	T-test p	% Match	% Mismatch $T_2>T_1$
Age of first								
crime	31	.93	16.48	17.55	-2.27	.03	65	91
questioned	30	.81	16.90	16.90	.00	1.00	57	54
arrest	29	.87	17.76	18.07	-.67	.51	62	64
felony								
arrest	29	.75	21.28	21.10	.19	.85	66	50
conviction	31	1.00	22.23	22.16	.53	.60	74	38
Number of								
arrests	27	.94	18.33	16.96	.99	.33	26	50
felony								
arrests	28	.72	4.96	2.96	1.92	.07	57	8
Colorado	29	.93	5.07	4.83	.40	.70	59	33
before 18	28	.83	1.96	1.21	1.53	.14	79	17
convictions	31	.99	3.87	3.55	2.16	.04	68	20
Colorado	31	.99	3.74	3.42	2.27	.03	65	18
before 18	30	.90	.73	.57	1.41	.17	83	20
adult								
prison terms	28	.89	1.57	1.68	-.83	.42	64	60
paroles	30	.95	1.30	1.47	-1.31	.20	87	75
revoked	29	1.00	.97	.97	.00	1.00	100	0
probations	31	.80	1.00	1.07	-.57	.57	71	56
revoked	31	.82	.74	.71	.33	.75	81	33

*Pearson product-moment correlation coefficient

CRIME FREQUENCY VARIABLES

Variable	n	Correlation		Means		T-test		%	% Mismatch
		r	Phi	T_1	T_2	t	p	Match	$T_2 > T_1$
Regular Rate?	70	---	.78	---	---	---	---	91	---
Number of									
Burglaries	84	.93	---	5.43	4.30	.89	.38	86	42
Robberies	84	.91	---	.64	.83	-.93	.36	94	60
Assaults	83	.98	---	2.29	2.06	1.01	.32	83	29
Theft	83	.78	---	3.31	4.57	-1.00	.32	84	38
MVT	84	.93	---	1.31	.77	1.00	.32	96	33
Forgery	84	1.00	---	25.90	61.37	-.99	.32	93	50
Fraud	85	.12	---	2.47	4.44	-.54	.59	91	38
Drug	82	.17	---	172.46	180.85	-.06	.95	84	38

Variable	n	Correlation		% Match	% Mismatch $T_2 > T_1$
		r*	Gamma		
Number by category of					
Burglaries	83	.87	.96	93	67
Robberies	84	.90	1.00	95	75
Assaults	85	.79	.87	81	25
Thefts	83	.82	.96	89	44
MVTs	83	.99	1.00	99	0
Forgeries	83	.98	.99	94	20
Frauds	84	.39	.95	92	43
Drug deals	83	.98	.99	94	40
Number collapsed by category of					
Burglaries	84	.95	.98	92	57
Robberies	84	.91	1.00	96	67
Assaults	83	.82	.91	84	31
Thefts	83	.82	.96	90	50
MVTs	83	.99	1.00	99	0
Forgeries	84	.97	.99	95	25
Frauds	85	.48	.96	92	43
Drug Deals	82	.93	.97	93	50

*Pearson product-moment correlation coefficient

WITHIN TIME COMPARISONS:
CRIME FREQUENCY VARIABLES

Variable	n	Correlation		% Match	% Mismatch Actual# >
		r*	Gamma		
Time 1					
Burglaries	83	1.00	1.00	99	100
Robberies	84	1.00	1.00	100	0
Assaults	84	.92	.97	93	33
Thefts	85	1.00	1.00	99	100
MVTs	84	1.00	1.00	99	0
Forgeries	85	1.00	1.00	99	0
Frauds	85	.95	1.00	96	67
Drug Deals	82	.93	.98	9[illegible]	0
Time 2					
Burglaries	84	.94	.99	98	0
Robberies	84	.99	1.00	99	0
Assaults	83	.98	1.00	96	67
Thefts	81	1.00	1.00	99	100
MVTs	84	1.00	1.00	100	0
Forgeries	83	.98	1.00	96	33
Frauds	84	1.00	1.00	100	0
Drug deals	84	.92	.90	90	12

*Pearson product-moment correlation coefficient

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