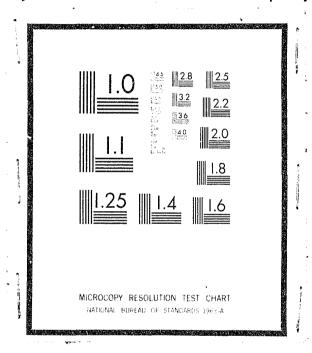
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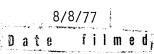
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THE DETERRENT EFFECTS OF CASE DISPOSITION

DECISIONS ON SPECIFIC FELONY CRIMES

Final Report

August 1976

by

Solomon Kobrin Neil Bergman

Social Science Research Institute University of Southern California

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This study was funded by a grant (#75-N1-99-0038) from the National Institute of Law Enforcement and Criminal Justice, of the Law Enforcement Assistance Administration.

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### INTRODUCTION

This is an extension of an earlier NILECH sponsored study that examined the deterrent effectiveness of the sanction resources employed by California criminal justice agencies in their efforts to control felony crimes (Kobrin et al, 1972). The prior study treated the seven Part I Uniform Crime Report felony offenses as a single offense pool. Utilizing the same analytic methods, procedures, and data base, the present study estimated measures of relationships between criminal justice sanction and crime rates separately for each of eight serious felony crimes, as defined in California's criminal code. The crime report and agency transaction data were drawn from the three-year period, 1969-1971.

The measurement of the deterrent effectiveness of justice agency operations presents problems of extraordinary complexity. The concept of deterrence virtually defies operational specification. In a recent treatment of the problem, Gibbs (1975) has concluded that deterrence represents not a theory, open to the verification procedures of scientific method, but a doctrine. He has argued that the concept of deterrence as usually stated is vaguely defined and poorly specified operationally, and that until and unless deterrence can be stated as a testable theory there is little prospect of useful research on the topic.

The idea of deterrence refers to two processes whose relationship to one another is highly problematic. The first reference is to the omission of an act in violation of law; the second to the assumption or supposition that the omission is a response to the perceived threat posed by the criminal justice system. Each of these processes considered separately is itself complex, and the complexity is compounded in their interaction.

A brief review of the issues that confront research on deterrence must begin with the fact that the omission of an act in violation of the law is

inherently unobservable. As such, it remains a matter of inference from the analysis of observable acts in motivational and situational contexts in which it is highly probable that opportunities for law violating acts have been foregone as a conscious act of choice. However, the chain of inferences that must be made to assess the crime control effect of deterrence does not stop there. In its commonly accepted definition the deterrence concept includes the proviso that the omission of the law violating act is a direct response to the threat of sanction posed by the agencies of criminal justice. Spontaneous conformity to law as a product of socialization must somehow be distinguished from conformity induced by external threat. It is only to the latter that deterrence refers. To complicate matters further, it may be argued that even spontaneous conformity may rest on the existence of a body of coercive criminal justice sanctions, so that the distinction usually made between specific and general deterrence remain essentially ambiguous (Gibbs, 1975: Chap. 2; Kobrin and Lubeck, 1975: 222-223).

Current knowledge of the deterrent effect of sanction is based on two types of research. In the first type motivational (reward and punishment) and situational (opportunity) factors are varied and controlled in laboratory experiments or indirectly in survey studies. This type of research generally has provided supportive evidence for the deterrent effect of sanction. Briefly summarized, such studies have found that sanction threats as well as appeals to conscience reduce cheating in reporting income for tax purposes (Schwartz and Orleans, 1967); that sanction threats have higher deterrent value for potential offenders than for non-offenders (Sinha, 1967); that opportunities to observe the imposition of punishment on offenders reinforces compliance in others (Bandura, 1969);

that sanction is an effective deterrent principally when the normative climate is supportive of compliance (Salem and Bowers, 1979); that the deterrent effect of sanction is in large part a function of the perceived risk of apprehension and punishment (Jensen, 1969); that perceived certainty of sanction is more effective as a deterrent with respect to offenses unsupported by moral norms than with respect to those that enjoy such support (Waldo and Chiricos, 1972); that sanction has relatively greater effectiveness not only with respect to unsupported moral norms, but also when the behavior is instrumental, i.e., directed to obtaining a desired reward and when there is no strong personal commitment to the particular form of deviance involved (Tittle and Rowe, 1973a); that as among the factors of severity of punishment, the probability of apprehension, the intent of the act, the utility of the act, and the type of victim, severity of punishment is the principal source of variation in the frequency of unethical acts (Rettiq and Rawson, 1963); that those with a predisposition to cheat were less responsive to the deterrent effect of punishment than were those not so disposed (Rettig and Pasamanick, 1964); that while delinquents and nondelinguents have similar perceptions of the objective probability of apprehension and punishment, delinquents regard their personal risk of arrest and conviction as lower than do nondelinquents (Claster, 1967); and that the credibility of a threatened sanction as well as its severity were both inversely related to a rule compliance (Horai and Tedeschi, 1969).

As Tittle and Logan (1973:383) point out, these studies are generally suggestive of the deterrent effect of sanction. However, they remain inconclusive on a number of grounds. First, the findings with respect to the important matter of the role of moral support for rules are contradictory, viz., the Salem and Bowers (1970) and the Tittle and Rowe (1973) studies, Second, the

data in several of the studies are based on subjects' opinions respecting their perceptions of how "people in general" may be expected to behave in hypothetical situations, not how the subjects themselves would expect to behave. Third, and most important, such studies il to reproduce the most crucial element of the situation they attempt to simulate: the existence of a realistic threat of punishment for infraction.

On the other hand, two conclusions seem reasonably well supported. Those predisposed to violate rules are relatively less deterred by sanction, and perceived certainty and severity of punishment are inversely related to the likelihood of infraction. However, when applied to the real life context of actual persons confronting the realistic threat of criminal sanction these conslusions beg the question. The predisiposition to violate rules is not an identifiably fixed attribute of persons, but varies in response to personal, situational, and social contingencies. Similarly, the perception of the certainty and severity of punishment remains an empirical question: all but the penalties for capital crimes is known only imprecisely by large proportions of any population. In brief, the insight into the deterrence process that may be gained from these studies is only marginally useful in understanding its dynamics in the real world of crime and punishment.

The arena of actual crime control action forms the focus of the second type of research. Data on crime rates and on justice agency sanction imposition are examined to answer a simply put question: does an increase in the certainty and severity of punishment result in a reduction of crime? Because of enormous deficiencies in the scope, continuity, and reliability of data on justice agency action the question in its researchable form becomes: what is the magnitude and direction of the association between crime rates and

the certainty and severity of punishment? In its changed form the question essentially sacrifices the causality issue. For the most part, cross-sectional rather than trend data are used because of the dubious uniformity of justice agency data through time and because it is difficult to control for shifts in legal definitions of crimes and in public sentiment, legislation, and crime control policy respecting conceptions of appropriate responses to law violation. The use of single time samples necessarily leaves unanswered the causal question whether crime rates are responsive to change in sanction levels or sanction levels respond to changes in crime rates.

Here, again, a brief summary of findings from selected studies in this research tradition will indicate its contribution to knowledge of the deterrence process. Increased certainty and severity of penalties were associated with a reduction in parking violations, but only for persistent offenders (Chambliss, 1966); a substantion negative association was found between homicide rates and length of imprisonment, based on data from States of the U.S. (Gibbs, 1968); with the exception of homicide, certainty rather than severity of punishment, i.e., imprisonment, showed significant inverse associations with UCR felony crimes, based on data from States of the U.S. (Tittle, 1969); an inverse relationship was found between the liklihood of arrest for all crimes except homicide and the rates for these crimes, based on arrest data provided by the FBI (Logan, 1971); arrest clearance rates and crime rates were inversely associated, based on data from Florida counties and cities (Tittle and Rowe, 1973b); and sanction levels (a compound measure of both certainty and severity) were consistently negatively associated with crime rates for the State of California and for groups of counties of differing population size (Kobrin et al, 1972).

Two studies that questioned the validity of such consistent findings of negative association between crime rates and sanction level include Schuessler (1952), who took into account the probability of the imposition of the death penalty for homicide. He found that the negative association was both reduced in magnitude and statistically non-significant. A second study by Chiricos and Waldo (1970) examined trends in the association between crime rates and the severity and certainty of imprisonment. They found the negative association between sanction and crime rates to be inconsistent and unstable over time, and concluded that the evidence failed to support the deterrence hypothesis. However, this conclusion was subsequently subjected to extensive critical review (Logan, 1971; Bailey, Gray, and Martin, 1971) and found to be unwarranted.

What may be said of the main body of evidence from this series of studies is that they quite consistently fail to disconfirm the deterrence hypothesis. But because of two shortcomings intrinsic to them their findings offer less conclusive support for it. First, the index of punishment certainty is restricted to the arrest rate and the index of severity to length of imprisonment. Both are inadequate in failing to include data of the proportion of arrests that result in convictions for use in the certainty index (information that is usually unavailable), and in failing to include data on sentence level for use in the severity index (also usually unavailable). As to the certainty measure, a very high proportion of felony arrests results in dismissals and charge reductions; as to the severity measure, a substantial proportion of those convicted on police initiated felony charges are placed on probation, fined, or are committed to local jails for limited terms of incarceration.

Second, criminal justice action is only one of many types of factors that can affect the crime rate. Factors extraneous to criminal justice sanction whose variation may be reflected in the incidence and prevalence of criminal activity include, among others, knowledge of the law and the sanctions for its violation, perceptions of the risk of actual sanction imposition, general attributions of legitimacy to particular legal prohibitions, and fear of the consequences of incurring social stigma. To assess the specific contribution of criminal justice operations to crime control, i.e., their deterrent effect, it is necessary to segregate for separate measurement the effects on crime rates of such social and psychological factors. Research to date has not accomplished this task, although a number of preliminary and crude efforts have been made (Sellin, 1967; Tittle, 1969; Kobrin et al, 1972). The need to address this task is pressing. Required is a theoretical model from which the relevant variables are identified and operationally specified, and an appropriate set of social and criminal justice data from which hypothesized relations respecting deterrent effects may be tested.

The study reported here is subject to many of the limitations summarized above. Its findings at best can only be suggestive of possible areas of fruitful further inquiry. It was undertaken, however, in order to exploit an unusually comprehensive body of criminal justice transaction data. These data permitted examination of crime rates for a set of specific felony offenses in relation to agency response at each major stage of the justice process. The unique feature of the data holdings of the California Bureau of Criminal Statistics is that they permit measurement of the certainty of sanction factor at a much more differentiated level than has been possible in past research of this type. Certainty of sanction has commonly been measured only through the

use of arrest data. Except for those available in California, there have been no systematic and reasonably reliable data on rates of post-arrest release by police, on rates of arraignment and indictment based on police charges, and on rates of charge reduction at both the pre-trial and trial stages. Use of the data in California made possible both a more comprehensive and a more differentiated measure of certainty. Similarly, the severity measure has commonly been based solely on length of imprisonment. Again, except for those available in California, there have been no systematic data on the distribution across the range of sentencing options.

The first section of this report describes the data of the study. This is followed in the second section by a presentation of measurement methods and their rationale, together with problems of data analysis and their resolution. The findings of the study are presented in the third section. These include index values for the measurement of the sanction in relation to each of eight felony crimes at the arrest, pre-trial, conviction, and sentencing stages for each of four population size groups of counties; and measures of association between crime specific rates and sanction levels. The final section assesses the implications of the findings and suggests directions of further research.

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#### The Data

The data of the study were abstracted from summary tables of crime reports, arrests, arrest dispositions, superior court case dispositions, convictions, and level of sentence for each of the following felony offenses:

Homicide

Manslaughter (Non-vehicular)

Robbery

Assault

Burglary

Grand Theft

Auto Theft

Rape

(See Appendix I for definitions of offenses)

These data are reported to the California Bureau of Criminal Statistics by the 58 counties of the State on a monthly basis and summarized in unpublished annual basic data tables by county. Special arrangements were made to obtain copies of these basic data tables for the three years, 1969, 1970, and 1971.

Specific items abstracted from the data tables for use in the analytic design included the following enumerations:

- (1) Crimes reported in each of the eight felony crime categories
- (2) Arrests in each offense category
- (3) Arrestees released without filing of charge
- (4) Misdemeanor charges filed
- (5) Felony charges filed

- (6) Felony charges disposed of in superior (criminal) court
- (7) Released and acquitted
- (8) Convicted on a misdemeanor charge
- (9) Convicted of a lesser felony
- (10) Convicted of original felony charge of those convicted, the number receiving
- (11) A fine only
- (12) Probation only
- (13) Jail and probation
- (14) A prison sentence
- (15) The death penalty

Data for the estimation of annual crime specific rates were based on the number of felony offenses in each of the eight categories as reported to BCS by all police agencies in each county jurisdiction.

#### Quality of the Data

Crime data are chronically encumbered with problems of validity, reliability, and comprehensiveness. Crime reports as initially recorded at the police level are often inaccurate and inconsistent, police tend to overcharge in the expectation of charge reduction at the prosecution stage, and the final disposition of cases is frequently untraceable through the complexities of arraignment and trial procedures. In the current, privitive state of statistical record keeping with respect to crime and criminal justice, it is possible only to assess the relative adequacy of any given data set. The California data are probably more comprehensive, reliable, and valid than most for a number of reasons.

Legislation enacted in 1955 mandated the reporting to a central agency, the Bureau of Criminal Statistics, of uniform criminal justice statistics by all police agencies of the State and by all county court jurisdictions. The process of establishing uniform definitions of offenses and complete and accurate reporting of agency transactions had, by 1970, some 15 years of development. During this period the BCS, by a combination of persuasion, instruction, and legal pressure, has succeeded in creating a remarkably high, if not perfect, level of uniformity and comprehensiveness in its body of criminal justice data. Residual inadequacies persist, and probably always will, in view of the autonomy of local justice agencies. However, given the uniquely detailed information on case transactions that BCS data provide, and their uniformity over the multiple jurisdictions of the State, their use in research is altogether warranted.

#### Measurement Methods and Data Analysis

The deterrent effect of criminal justice sanction was here measured by estimating the magnitude and direction of the relationship between the level of sanction exercised at each of four stages of the justice process and the crime rate for each of eight serious felony crimes during the single 1969-1971 time period.

#### Sanction Measurement

Following the classical criminological precepts of Beccaria (1767) and Bentham (1823), the traditional approach to the measurement of the justice system's response to crime has been to distinguish its three major components: certainty, severity, and celerity (Sutherland and Cressey, 1974:321). Leaving aside the last, the distinction between certainty and severity seems readily defined conceptually, e.g., the difference between the probability of apprehension by the police and the severity of the punishment suffered. However, the certainty and severity of punishment are difficult to segregate when viewed in their character as experience undergone. It is, after all, the action of the law as experienced that may be supposed to have the most direct consequences for deterrence. Those for whom there exists "probable cause" to suspect as guilty of an offense are arrested, charged, held or freed on money bail pending trial, and subjected to the jeopardy of conviction - all these prior to the possible formal imposition of punishment. The presumptive innocence of the suspect prior to conviction notwithstanding, it is plain that the very procedures required to establish the legal status of suspects represent a series

of intrinsically punitive sanctions. This is true regardless of the acknowledged importance of maintaining the strictest distinction in the law between preconviction innocence and post-conviction guilt. Arrest, arraignment, and trial do more than place the suspect in jeopardy of conviction. They simultaneously impose a sacrifice of time, money, and freedom of action, and the stigma, often severe, of coming under the suspicion of powerful authorities. It can hardly be held that such experiences are not inherently punitive, or that they may readily be distinguished from the final formal punishment imposed. Indeed, a monetary fine as a sentence for some suspects may well weigh less in a scale of punitive sanction than all that has been undergone to that point.

It is for these reasons that the certainty-severity distinction has here been replaced by a direct measure of the sanction level attained at the arrest, pre-trial, conviction, and sentencing stages of the criminal justice process. Obviously, it was feasible to do this only because the California data made it possible. Prior deterrence research has typically been confined to only two measures: the ratio of arrests to crime reports, and the average length of prison sentence served for given offenses. The first appears to be a reasonable operationalization of certainty (with no measure of other "certainties" before sentence), the second of severity (with no measure of severity other than length of imprisonment). In a word, neglect of the certainty-severity distinction and its substitution by the full range of sanction action available to the criminal justice system appears to be warranted.

The measurement of sanction level at each stage of criminal justice requires some way of anchoring the estimate to its maximum possibility. This was here done by defining maximum sanction possibility as consisting conceptually

of complete "success" in implementing agency goals at each stage, with attainment below that goal measureable as a ratio ranging 0 to 1.0. Thus, at the arrest stage maximum possible police sanction would be represented by a felony arrest for each reported felony crime; at the pre-trial stage arraignment on a felony charge for each felony charge brought by the police and prosecution agencies; and at the conviction stage a finding of guilty for a felony offense on each felony charge tried. The maximum level of sentence sanction would be represented by a prison sentence on each conviction for a felony offense. Estimation of Sanction Levels

The level of sanction exercised at each stage is represented by the extent to which the sanction available was in fact imposed. At the police stage this was measured by an index number calculated as the ratio of those arrested for each of the eight felony offenses to the total number of felony crimes reported in each category. Options available to the police in disposing of cases of arrest include release at the station level, reduction of the charge to a misdemeanor, and the filing of a felony charge. Each option in this series was defined as representing an increase in the level of police sanction and was accordingly weighted in the following computation formula:

POLICE SANCTION =  $\frac{(1 \times \# \text{ Released}) + (2 \times \# \text{ Misdemeanors Filed}) + (3 \times \# \text{ Felony Charges Filed})}{3 \times \# \text{ Total Felonies Reported}}$ 

Sanction level at the pre-trial stage was estimated with the use of a simplified formula that reflected the net outcome of a complex process. Whether charges placed by police against a suspect are accepted as a basis for arraignment by a lower court or by the prosecutor for movement to trial often depends not merely on the adequacy of the evidence. Involved as well may be the prevailing degree

of cooperation between police and prosecutors and between enforcement and judicial agencies, the fluctuating size of the court calendar, the state of public outrage or anxiety respecting particular types of offenses, and the like. The net outcome of the pre-trial process, reflecting all of these variables, is represented by the ratio of the number of defendants appearing before the Superior Court to the number of individuals against whom the police have placed felony charges. Hence, the formula for computing the level of pre-trial sanction was:

PRE-TRIAL SANCTION = # of Felony Defendants in Superior Court # of Felony Complaints Filed by Police

Measurement of sanction at the trial stage was based on the relative weights of the possible outcomes as a ratio to the total number of those eligible for conviction on charges that brought them before the criminal courts. These outcomes included acquittal and release, conviction on reduced charges, i.e., misdemeanor or lesser felony, and conviction on the original felony charge, each appropriately weighted. Case dispositions were assigned increasing weights at unit step intervals, since there is no known empirical basis for determining interval magnitudes for the several dispositions. For example, the research has not yet been conducted to ascertain whether for those undergoing trial for a felony offense conviction on an original felony charge has in fact twice the sanction weight as conviction on a reduced misdemeanor charge. The formula for computing this measure was:

Measurement of sanction level at the sentencing stage required a judgment of an admittedly commonsense kind respecting the severity of the sentencing alternatives available to the court. Sentences on conviction range from a fine through probation, jail (if charge has been reduced to a misdemeanor), some combination of probation and jail, fine, prison, and in infrequent cases, the death penalty. In calculating this index it was necessary to subtract out of the total eligible for conviction those who were dealt with as juveniles, with commitment to the Youth Authority; as mentally ill, with commitment to the Department of Mental Hygiene; and those charged with felonious drug law offense and committed to the State's addict rehabilitation center. The remaining sentencing alternatives were weighted in a gradient from a fine (1), probation (2), jail plus probation (3), jail only (4), prison (5), and death penalty (6). While there was access to some data on length of prison sentence, these were not used in estimating sentence sanction level because they were available only for the metropolitan counties. Sentence sanction level was measured by the following formula:

Again, it should be noted that sanction at each stage was represented by an index number normalized to an identical scale ranging from 0.0 to 1.0, permitting direct comparisons of the level of sanction among the stages of the justice process, the county jurisdictions of the State, and in response to the several specific felony offenses.

The crime rate for each felony offense was calculated as the ratio of crimes in each category reported to the police, averaged for the three-year period, 1969-1971, to the 1970 population of each county jurisdiction. Rates were computed by the formula:

CRIME RATE = # of Crimes Reported per Category x 100,000

#### Objectives of Data Analysis

The content and scope of the data permit an assessment of the variation in the California justice system's sanction response to felony offenses. The specific variations of interest include differences in sanction level associated with each type of felony offense at each of the four stages of the criminal justice process, and among counties of varied population size. Tabulations of sanction level measures thus provide a "topography" of justice agency response to felony crime, identifying those locations in the justice process at which its punitive impact may be most evident.

The relevance of such information for the deterrence issue is that it has the potential for discriminating those features of the criminal justice process that have a direct crime control function from those directed to other legal and social values. Much of the activity of the institution of criminal justice is concerned with procedural safeguards designed to assure fairness, impartiality, "due process" - in a word, justice. Indeed, a not uncommon complaint in some quarters is that the pursuit of such aims has the effect of reducing the deterrent impact of criminal justice. Legal scholars view the two aims of the system, deterrence and justice, as intrinsically opposed, and as requiring skill in the functionaries of the system continuously to seek an optimal balance (Packer, 1968). It is consequently to be expected that judicial proceedings, as they are

not designed primarily for punitive effect, will exhibit lower sanction levels. However, it is of some interest to discover whether this is uniformly true of the action of the judiciary, in particular in those phases of its operations concerned with the conviction and sentencing of offenders.

The second and possible more crucial question that may be assessed through the analysis of these data is whether and to what degree given sanction levels at various stages of the justice process may have a differential deterrent effect on various types of felony offenses. But in dealing with this issue it should be said at the outset that because of data limitations the analysis can do no more than identify differential deterrent effects at some unknown level of probability. There are two reasons for this. First, as a cross-sectional study, the crime rate and sanction level data were available for the single time period, 1969-1971, (all measures averaged for the three years to obtain statistical stability), with no possibility of ascertaining the direction of causality as between sanction and crime rates. Second, the large number of demographic, economic, and sociological variables extraneous to criminal justice sanction that may simultaneously affect the crime rate were not controlled. Hence, use was made of only simple zero order correlations between sanction level and crime rate. At the same time, however, this information will be available in more detail than has heretofore been possible, specifically for each of eight types of felony offenses, four stages of the criminal justice process, and four types of communities defined by population size.

#### III Study Findings

Findings of the study are organized in a series of tables presenting the sanction scores and their relationships to the rates of specific felony offenses. In addition to exhibiting Statewide scores and rates, the tables are designed for comparative examination among county groups of varying population size and with reference to the four stages of the criminal justice process - those of arrest, pre-trial, conviction, and sentence. So far as the data permit, inferences of limited scope are drawn regarding the relationship of sanction certainty (the probabilities of arrest, arraignment, and conviction) to crime specific rates, as well as the relationship of severity (sentence sanction scores) to these rates. Appended, finally, are the raw sanction scores by justice stage and type of offense for the counties constituting each population size class of counties, definitions of the offenses, and crime rates and sanction scores rank ordered for all counties of the State.

#### Statewide Measures

Statewide, average sanction scores differ substantially among the eight felony offenses (Table 1). They range from a high of 0.67 for homicide to a low of 0.40 for auto theft. The widest range among offenses occurs at the police stage with a high of 0.69 for homicide and a low of 0.10 for burglary. Of specific interest is the fact that the range of variation narrows steadily with progression from the arrest to sentence stage, suggesting, not surprisingly, that sanction level differences for felony crimes diminish with the movement of suspects through the system. This is most strikingly shown for burglary, whose low police sanction score escalates sharply as suspects are moved through the pre-trial stage to conviction. This is not true, however, for the offenses

of assault and rape, suggesting for the first that a high proportion of arrested suspects encounter reduced sanction during later stages, and the second that the judicial process exerts little more sanction weight than enforcement. The reader is reminded that these late are based on averages for the entire State, and therefore reflect only general trends.

The relationship of stage specific sanction scores to crime specific rates, both Statewide averages, reveals a striking difference between the police stage and the remaining three (Table 2). Zero order correlations between police sanction and the rates of virtually all offenses are inverse and, with the exception of homicide and burglary, substantial. All but that for homicide are, however, statistically significant. On the other hand, six of the eight offense rates are inversely correlated with pre-trial sanction score, with only three substantial in magnitude, while two are positively related. Conviction and sentence sanction scores are on the whole also positively associated with sanction scores at these stages.

Thus, the major trend disclosed by Statewide average measures of sanction and crime rates is the consistency with which sanction at the police stage is suggestive of deterrent effect, and the dubious impact of sanction beyond this point. But it should be kept in mind that average measures conceal important distinctions. It remains to be seen whether the relationships that hold or the average for the State are true for jurisdictions of different population size and demographic character.

When sanction levels across all felony offenses are viewed comparatively for jurisdictions of different population size (Table 3), it is notable that police sanction is highest in counties of 25,000 - 99,999 population, and lowest for the largest metropolitan counties. On the other hand, sanction

levels for all of the subsequent stages tend to be highest in the metropolitan counties. It is also of interest that sanction levels for the pre-trial, conviction, and sentencing stages are lowest in the jurisdictions most remote from the metropolitan counties, those with populations below 25,000. Further, the greatest disparities in sanction level over all offenses occur at the conviction and sentencing stage, with the greatest contrast between the rural and the metropolitan counties. Overall, it appears that average sanction levels are highest in the counties of largest population size, lowest in those with small populations. In other words, average sanction level and population size would appear to be positively related. The question of interest is whether this relationship is uniformly true for all felony offenses.

#### Comparative Sanction Measures - Population Size and Felony Offenses

Counties have been grouped into four classes of population size, each roughly defining a specific level of urbanization and industrialization: the clearest cases are represented by the metropolitan counties with 1970 populations above 500,000, and the rural counties with 1970 populations below 25,000. The place on an urban-rural continuum of the remaining two classes is ambiguous. Those with populations between 100,000 and 500,000 include some large cities as well as (in California) farming areas of the agribusiness variety. This is in part true also of counties with populations between 25,000 and 100,000. For purposes of the present analysis, admittedly requiring substantial refinement, the classification of counties represents a first approximation to those control variables extraneous to the action of criminal justice agencies relevant to the deterrence issue.

When mean sanction scores for the group of felony offenses are compared by justice stage across classes of counties, there appears to be remarkable

uniformity across all justice stages (Table 3). However, classes of counties exhibit a declining gradient of disparity in sanction levels with decreasing population size. Highest disparities are found in counties above 100,000 population, least in the counties of smaller populations. This suggests the possibility that agencies in smaller communities may be more effectively integrated in their crime control efforts than are the urban counties.

Turning to specific felony offenses, sanction levels for homicide (Table 4) are markedly higher in populous counties. This is most notable at the police and pre-trial stages. Smaller communities appear to be less severe in the use of sanction for homicide cases at each of the four stages of the justice process. To be noted also is the fact that the widest disparities in sanction occur at the police stage, ranging from a high of 0.84 to 0.46.

The same appears to be true for the offense of manslaughter (Table 5).

Here, again, counties with populations above 500,000 exhibit the highest (mean sanction scores for this offense (0.54). Mean sanction scores decline in a steep gradient to a low of 0.32 in counties with the smallest populations. As to justice stage, it is at the point of conviction that differences are greatest, with a score of 0.87 in the metropolitan counties and 0.41 in the small counties. The same is true to a lesser extent at the pre-trial stage (0.72 versus 0.42).

Justice sanction respecting the offense of robbery is with the single exception of conviction both low and uniform (Table 6). Interestingly, police sanction scores are lower in metropolitan than in rural counties, although this is reversed at the conviction stage. Here, the largest counties show a sanction score of 0.77 and 0.74, with a score of 0.29 for the rural counties.

For the offense of assault the severest sanction is levied in the smaller counties, and this notably at the police and pre-trial stages (Table 7).

Sanction scores in response to burglary are striking in a number of ways (Table 8). First, not surprisingly, they are lowest among all felony offenses at the police stage. Second, there is remarkable uniformity across every type of county in the level of sanction imposed at all subsequent justice stages. Third, sanction scores at the conviction stage are very high in every class of counties. In fact, the average sanction score at the conviction stage (0.79) exceeds by a considerable margin that for assault (0.59), robbery (0.60), manslaughter (0.64), homicide (0.64), grand theft (0.67), auto theft (0.67), and rape 0.44). In contrast, average sentence severity across counties is no greater for burglary than for any of the other felony offenses, with the exception of homicide.

With respect to the offense of grand theft much the same is true, with the exception that here pre-trial sanction levels are also relatively high (Table 9). Also, as in the case of burglary, police sanction scores are very low generally, although exhibiting a slightly rising gradient in the smaller population counties.

Somewhat greater differences in sanction levels for auto theft are apparent across classes of counties (Table 10). At the police and pre-trial stages there occurs a reversal of the sanction scores at the conviction and sentencing stages. Both police and pre-trial sanction scores are much higher in the counties of smaller than of larger population, with conviction and sentence sanction lower in the latter than in the former. Overall, average sanction levels are nevertheless higher in the larger population counties. But again,

as was seen to be true for several other felony offenses, the principal point at which sanction for auto theft is severe is the stage of conviction.

The offense of rape appears to incur the highest sanction levels in the metropolitan counties (Table 11). The counties of smaller population offer, in fact, a striking contrast in their generally much lower sanction scores for rape, with the single exception of the police sanction level. The major points of sanction in the largest population counties are at the pre-trial and conviction stages. For counties above 500,000 population these are 0.58 and 0.61 respectively. In counties below 25,000 population these sanction scores are 0.25 and 0.25. A similar contrast exists as well for sentence severity - 0.55 versus 0.41.

Average sanction levels embracing all four justice stages and all eight felony offenses in relation to classes of county population size are presented in Table 12. Again it is to be noted that they describe a declining gradient from the metropolitan to the rural counties. Stated otherwise, the criminal justice response would appear to be more severe and certain in the large urban centers of the State than in the rural hinterland. In fact, the difference in average sanction level lies specifically between the rural counties with a total average sanction score of 0.41, and the remaining three classes with populations above 25,000. Their total average sanction scores are 0.49, 0.51, and 0.51 respectively.

There are, however, interesting distinctions among these county classes respecting relative sanction scores for the set of felony offenses. Leaving aside sanction for homicide, highest in all classes, the most severe response in the counties with over 500,000 population was directed to manslaughter, robbery, and rape (0.54, 0.52, and 0.49 respectively), followed by assault

(0.46), burglary (0.45), and grand theft (0.46), with the least severe sanction reserved for auto theft (0.42). Counties with populations from 25,000 to 99,999 show a thoroughly mixed picture in their sanction distribution pattern, although showing higher sanction levels for robbery and assault. The rural counties exhibit a stark contrast to those that are more urbanized in that their sanction levels for manslaughter, robbery, auto theft, and rape are substantially lower, and that for assault substantially higher. The meaning of these contrasts is difficult to interpret in the absence of far more detailed information about differences in the policies and practices of justice agencies in the several types of jurisdictions than is available in the data set under analysis.

#### Measures of Association Between Sanction and Crime Rates

Following an examination of the distribution of sanction levels among classes of counties, justice stages, and the set of serious felony crimes, attention was turned to the question of deterrent effect. Given the cross-sectional character of the available data, this question could be raised only in its most elementary form: what was the magnitude and direction of the association between sanction level and crime specific rates? Since sanction measures were available by justice stage and for county classes of population size, there existed an opportunity as well to assess these associations in some detail.

In the metropolitan counties negative associations were found between all but one of the eight felony offenses and police sanction scores (Table 13). The number of such negative associations was reduced for the pre-trial (4), the conviction (5), and the sentence (5) stages. Curiously, the single statistically significant negative correlation was a substantial -0.71 between

sentence sanction score and auto theft. These findings suggest, although they hardly demonstrate, that for this group of counties the major source of deterrent effect is to be found in police sanction. Among offenses exhibiting inverse associations with police sanction, it may be noted that it is lowest with respect to homicide (-0.12) and highest for assault (-0.62).

The question of the statistical significance of these negative associations deserves comment. It is true that no claim is here made respecting the chance limits within which these associations occur, except that they exceed the 0.05 level. However, the almost uniformly negative direction of the association between police sanction and crime specific rates provide evidence of a trend that cannot be ignored. Moreover, as will be seen, the same trend is apparent in much of the data that follows.

For the next class of counties (100,000 - 499,999), again, there is a predominance of inverse associations between police sanction scores and crime specific rates (Table 14). Six of the eight correlation measures are inverse, with three statistically significant (assault, burglary, and grand theft). The remaining three justice stage sanction scores exhibit principally positive associations with crime specific rates. An exception is the high and statistically significant inverse association between the conviction sanction score and the assault rate.

The next tier of counties (25000 - 99,999) similarly provide evidence of the deterrent effect of police sanction, with the rates of seven of the eight felony offenses inversely related to police sanction scores (Table 15). Again, the number of such negative associations is reduced in the subsequent justice stages, sharply for the conviction sanction score.

For counties with population below 25,000 the curious situation arises in which virtually all the inverse associations between sanction and crime specific rates are found at the police and pre-trial stages (Table 16). As a tentative interpretation, it may be suggested that the character of social control in rural communities leaves to its criminal justice system only the most marginal function with respect to deterrence.

A more general view of the associations between justice stage sanction scores and crime rates for classes of counties is afforded in Tables 17-24. With reference to justice stage it is here again evident that police sanction exhibits most consistently inverse associations with the rates of felony offenses. If the 32 measures of association between police sanction scores and the rates of eight felony crimes in four classes of counties, 22, or 69 percent, are inverse. These associations are sharply reduced only for the offenses of homicide and rape, where they tend to be positive. For subsequent justice stages the proportion of negative associations between sanction scores and crime specific rates is sharply reduced. For the pre-trial stage 63 percent are inverse, and for the conviction and sentence stages 41 and 44 percent respectively.

A similar declining gradient is apparent among classes of counties in the proportion of negative associations between sanction scores for all four justice stages and the eight crime specific rates. For the metropolitan counties 66 percent of these associations are negative; 59 percent in the 100,000 - 499,999 group; 53 percent in the 25,000 - 99,999 group; and 44 percent in the group under 25,000 population.

#### The Measure of Deterrent Effect on Specific Offenses

The question of net deterrent effect of sanction on crime specific rates was assessed by estimating the proportion of variation in rates explained by the total sanction weight of the four justice stages (Table 25). The method of multiple correlation was used, with the multiple  $R^2$  as the measure of explained variation.

The use of county population size as the sole classifying variable for the units of analysis admittedly confounds and obscures a large number of important policy, organizational, demographic, and social variables, for which data were not available in this study. Nevertheless, the magnitudes displayed in Table 25 suggest enormous differences in the crime control effect sanction across counties of different size and among specific felony offenses. For the metropolitan counties the proportion of explained variation ranges from 0.17 for rape to 0.73 for auto theft. For the next less populous group of counties the range is from 0.11 for homicide to 0.54 for burglary. Counties in the 25,000 - 99,999 group have highs and lows of 0.74 for assault and 0.08 for manslaughter. The rural counties, finally, show a high of 0.62 for assault and a low of 0.17 for robbery and burglary respectively.

Statewide, the proportions of explained variation are substantially lower for most felony offenses than in groups of counties, a reflection of the fact that in the latter a single control variable has been introduced. In any event, the data provide some evidence that in various types of jurisdictions and for various types of felony offenses the proportion of variation in crime rate explained by criminal justice sanction ranges from a low of 0.08 for manslaughter in counties with populations between 25,000 and 100,000 to a high of 0.74 for assault in the same group of counties.

#### IV Discussion

Findings of the study provide evidence at a moderate level of conclusiveness that criminal justice sanction exerts a deterrent effect on serious felony crimes. For the State as a whole the deterrent effect is most apparent for the offenses of assault, auto theft, and grand theft, and weakest for those of homicide, manslaughter, and burglary. Further, the deterrent effect of the justice system is most in evidence at the phase of the enforcement process represented by police sanction. Deterrent effect is substantially reduced in the judicial stages.

The question may be raised in relation to the latter finding whether the judicial process is designed to accomplish a deterrent purpose, a notion that has won substantial current acceptance (Wilson, 1975). Judicial agencies have been designed rather to provide procedural and substantive fairness in the processing of criminal suspects, however onerous for them this experience may be. Even with respect to the function of sentencing, with its explicit purpose of imposing sanction, it is likely that retribution rather than deterrence remains on the whole its principal motive.

However this may be, the deterrent effect of justice sanction was found to be greater in the metropolitan than in the rural counties. Despite the substantially higher crime rates in the larger cities, this finding suggests that urban high crime rates persist in the face of the reasonably efficient crime control efforts of their criminal justice systems. Obversely, the lowered deterrent effect of rural justice systems on their much lower crime rates suggests the prominence there of effective alternative means of crime control.

Deterrent effects in relation to each of the felony crimes were found to vary widely by type of jurisdiction. Because the sole index of type of jurisdiction was population size of county, it has remained impossible on the basis of the data of the present study to account for these variations. Further research is needed to throw light on this phenomenon, utilizing a set of theoretically derived control variables of greater discriminating power. It may well be, for example, that greater homogeneity in the units of analysis can be achieved by combining county jurisdictions quite dissimilar in population size but similar in social, political, and economic composition and in the organizational patterns and policies of their criminal justice agencies. A study of this scope would, however, be a high cost undertaking.

A number of general observations on deterrence research are warranted. A focus on specific deterrence as a principal means of crime control may be misleading. Although it still remains to be conclusively determined, the crime control effect of specific deterrence was found in an earlier California study (Kobrin et al, 1972) to account for approximately one-third of the variation in Part I felony crimes treated as a single offense pool. Suggestive evidence was then found indicating that a substantial 50 percent of the variation might well be accounted for by sociodemographic variables.

The focus on specific deterrence as a major means of crime control derives ultimately from theories of human behavior based on utilitarian assumptions regarding the rationality of man. These assumptions are questionable, not because man is not rational in his behavior in some of his activities, but because, in addition, large areas of behavior are also subject to control by nonrational forces. On these grounds the focus of investigations useful for the planning of crime control policy should not be confined solely to specific

deterrence, but expanded to a concern with the more inclusive problem of social control. Such an approach would make it possible to take into account the more general and basic issues of socialization as these are affected by processes in various areas of human experience. These include primary group experience and those stemming from the ideological and value premises of ethnic, religious, social class, and occupational communities as these are differentially affected by more general political and economic forces. Studies of this type may discover how these complexes of factors interact with the rational capacities of human beings to determine in turn the character of the crime control problem.

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TABLE 1

CRIME SPECIFIC SANCTION SCORES BY JUSTICE STAGE,
CALIFORNIA, 1969-71

OFFENSE	POLICE	PRE-TRIAL	CONVICTION	SENTENCE	<u>X</u>	OFFENSE RATE
Homicide	.69	.74	.63	.61	.67	6.89
Manslaughter	.25	.55	.64	.39	.46	2.29
Robbery	.32	.49	.60	.45	.47	82.02
Assault	.55	.42	.59	.48	.51	124.52
Burglary	.10	.49	.79	.47	.46	1,470.08
Grand Theft	.11	.60	.67	.46	.46	328.93
Auto Theft	.13	.32	.67	.46	.40	351.91
Rape	.36	.48	.44	.41	.42	21.42
$\overline{X}$	.31	.51	.63	.47	.48	298.51
S.D.	.20	.12	.09	.08	.08	

TABLE 2

CORRELATION OF SANCTION SCORES WITH CRIME RATES BY

OFFENSE AND JUSTICE STAGE,

CALIFORNIA, 1969-71

OFFENSE	POLICE	PRE-TRIAL	CONVICTION	SENTENCE
Homicide	19	08	.09	.01
Manslaughter	31**	.12	.05	07
Robbery	31**	.16	.36	.25
Assault	56**	31**	.15	20
Burglary	23	28*	03	08
Grand Theft	28*	08	.37	.40
Auto Theft	40**	17	.32	.28
Rape	38**	40**	.15	.44

<sup>\*</sup> Significant at the .05 level

<sup>\*\*</sup> Significant at the .01 level

TABLE 3
MEAN SANCTION SCORES BY JUSTICE STAGE
AND COUNTY POPULATION
CALIFORNIA, 1969-71

COUNTY POPULATION	POLICE	PRE-TRIAL	CONVICTION	SENTENCE	$\overline{X}$	S.D.
Over 500,000	.26	.54	.73	.51	.51	,17
100,000 - 499,999	.31	.51	.69	.53	.51	.13
25,000 - 99,999	.37	.51	.60	.46	.49	.08
Under 25,000	.30	.49	.49	.37	.41	.08
$\overline{\mathbf{x}}$	.31	.51	.63	.47	.48	.11
S.D.	.04	.02	.09	.06	.04	

TABLE 4
HOMICIDE SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION					S.D.
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.77	.84	.68	.46	.69	.14
Pre-Trial	.84	.75	.66	.71	.74	.07
Conviction	.66	.67	.64	.57	.64	.04
Sentence	.63	.67	.57	.55	-61	.04
X	.73	.73	.64	.57	.67	.03
S.D.	.08	.07	.04	.09	.05	

TABLE 5

MANSLAUGHTER SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION,
CALIFORNIA, 1969-71

JUSTICE STAGE		X	S.D.			
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.13	.28	.38	.20	.25	.09
Pre-Trial	.72	.54	.51	.42	.55	.11
Conviction	.87	.71	.56	.41	.64	.17
Sentence	.45	.44	.41	.26	.39	.08
$\overline{X}$	.54	.49	.47	.32	.46	.08
S.D.	.28	.16	.07	.09	.15	

TABLE 6

ROBBERY SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION,
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION				<u>X</u>	S.D.
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.25	.33	.36	.34	.32	.04
Pre-Trial	.53	.55	.53	.37	.50	.07
Conviction	.77	.74	.60	.29	.60	.19
Sentence	.52	.57	.45	.25	.45	.12
X	.52	.55	.49	.31	.47	.10
S.D.	.18	.15	.09	.05	.10	

TABLE 7
ASSAULT SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION,
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION					S.D.
	OVER 500,000	100,000- 499,999	25,000 99,999	UNDER 25,000		
Police	.45	.48	.63	.62	.55	.08
Pre-Trial	.32	.34	.43	.58	.42	.10
Conviction	.61	.59	.56	.59	.59	.02
Sentence	.47	.49	.48	.48	.48	.00
X	.46	.48	.53	.57	.51	.05
S.D.	.10	.09	.08	.05	.06	

## TABLE 8 BURGLARY SANCTION SCORES BY JUSTICE STAGE AND COUNTY POPULATION CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION					<u>S.D.</u>
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.07	.07	.14	.10	.10	.03
Pre-Trial	.47	.47	.47	.53	.49	.03
Conviction	.80	.79	.80	.75	.79	.02
Sentence	.45	.49	.50	.43	.47	.03
X	.45	.46	.48	.45	.46	.02
S.D.	.26	.25	.23	.29	.24	

TABLE 9
GRAND THEFT SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION
CALIFORNIA, 1969-71

JUSTICE STAGE		COUNTY POPULATION				
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.09	.08	.12	.13	.11	.02
Pre-Trial	.57	.64	.60	.58	.60	.03
Conviction	.74	.73	.67	.53	.67	.08
Sentence	.45	.47	.44	.46	.46	.02
$\overline{\chi}$	.46	.48	.46	.43	.46	.02
S.D.	.24	.16	.26	.18	.21	

TABLE 10
AUTO THEFT SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION			$\overline{x}$	<u>s.D.</u>	
•	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.07	.09	.16	.20	.13	.05
Pre-Trial	.28	.28	.40	.31	.32	.05
Conviction	.78	.76	.63	.51	.67	.12
Sentence	.55 ·	.55	.42	.32	.46	.10
X	.42	.42	.40	.34	.40	.03
S.D.	.27	.26	.17	.11	.20	

TABLE 11
RAPE SANCTION SCORES BY
JUSTICE STAGE AND COUNTY POPULATION
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION					<u>S.D.</u>
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000		
Police	.23	.32	.54	.34	.36	.11
Pre-Trial	.58	.49	.47	.39	.48	.07
Conviction	.61	.54	.35	.25	.44	.14
Sentence	.55	.50	.37	.22	.41	.13
$\overline{\mathbf{x}}$	.49	.46	.43	.30	.42	.08
S.D.	.15	.08	.08	.07	.04	

TABLE 12

MEAN SANCTION SCORES
FELONY OFFENSES BY SIZE OF COUNTY POPULATION
CALIFORNIA, 1969-71

OFFENSES	COUNTY POPULATION					S.D.
	OVER 500,000	100,000- 499,999	25,000 99,999	UNDER 25,000		
Homicide	.73	.73	.64	.57	.67	.07
Manslaughter	.54	.45	.47	.32	.45	.08
Robbery	.52	.55	.49	.31	.47	.09
Assault	.46	.48	.53	.57	.44	.04
Burglary	.45	.46	.48	.45	.46	.02
Grand Theft	.46	.48	.46	.43	.46	.04
Auto Theft	.42	.42	.40	.34	.40	.03
Rape	.49	.46	.43	.30	.42	.07
X	.51	.50	.49	.41	.48	.04
S.D.	.09	.09	.07	.10	.08	

TABLE 13
SIMPLE CORRELATIONS, SANCTION SCORES AND FELONY OFFENSES BY
JUSTICE PROCESS STAGE, COUNTIES OVER 500,000 POPULATION
CALIFORNIA, 1969-71

OFFENSES	POLICE	PRE-TRIAL	CONVICTION	SENTENCE
Homicide	12	20	32	.25
Manslaughter	39	-/17	27	57
Robbery	56	.40	20	31
Assault	62	.52	.32	53
Burglary	46	.10	.43	31
Grand Theft	.44	36	.43	.18
Auto Theft	37	.30	54	71*
Rape	31	02	02	.20

<sup>\*</sup>Significant at the .05 level

TABLE 14
SIMPLE CORRELATIONS, SANCTION SCORES AND FELONY OFFENSES BY
JUSTICE PROCESS STAGE, COUNTIES BETWEEN 100,000 and 499,999 POPULATION
CALIFORNIA, 1969-71

OFFENSES	POLICE	PRE-TRIAL	CONVICTION	SENTENCE
Homicide	.27	.07	18	16
Manslaughter	46	.39	18	36
Robbery	47	.15	22	.14
Assault	58*	.04	48*	.09
Burglary	71*	13	.15	.14
Grand Theft	57*	03	.10	29
Auto Theft	30	17	12	32
Rape	.45	34	.25	.15

<sup>\*</sup>Significant at the .05 level

TABLE 15
SIMPLE CORRELATIONS, SANCTION SCORES AND FELONY OFFENSES BY
JUSTICE PROCESS STAGE, COUNTIES BETWEEN 25,000 and 99,999 POPULATION
CALIFORNIA, 1969-71

OFFENSES	POLICE	PRE-TRIAL	CONVICTION	SENTENCE
Homicide	51*	12	.17	24
Manslaughter	13	.20	.13	.13
Robbery	53*	01	.74	.24
Assault	66*	<b>~.</b> 59*	.28	.09
Burglary	07	43	18	01
Grand Theft	44	.12	.24	.38
Auto Theft	23	28	.00	02
Rape	.23	53*	.09	.50

Significant at the .05 level

TABLE 16
SIMPLE CORRELATIONS, SANCTION SCORES AND FELONY OFFENSES BY
JUSTICE PROCESS STAGE AND COUNTIES UNDER 25,000 POPULATION
CALIFORNIA, 1969-71

OFFENSES	POLICE	PRE-TRIAL	CONVICTION	SENTENCE
Homicide	.10	.20	.13	.54
Manslaughter	.26	21	.06	.37
Robbery	.19	.13	.37	.32
Assault	46	54*	.27	45
Burglary .	31	32	10	39
Grand Theft	29	20	.59	.57
Auto Theft	58*	52*	01	.10
Rape	.07	29	18	18

Significant at the .05 level

TABLE 17
SIMPLE CORRELATIONS, SANCTION SCORES AND HOMICIDE BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION SIZE
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION				
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	12	.27	.51	.10	
Pre-Trial	20	.07	12	.20	
Conviction	32	18	.17	.13	
Sentence	.25	16	24	.54	

TABLE 18
SIMPLE CORRELATIONS, SANCTION SCORES AND MANSLAUGHTER BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION SIZE
CALIFORNIA, 1969-71

JUSTICE STAGE	COUNTY POPULATION				
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	39	46	13	.26	
Pre-Trial	17	.39	.20	21	
Conviction	27	18	.13	.06	
Sentence	57	36	.13	.37	

TABLE 19
SIMPLE CORRELATIONS, SANCTION SCORES AND ROBBERY BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION SIZE
CALIFORNIA, 1969-71

JUSTICE STAGE		COUNTY POP	ULATION		
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	56	47	53*	.19	
Pre-Trial	.40	.15	01	.13	
Conviction	20	22	.74	.37	
Sentence	31	.14	.24	.32	

<sup>\*</sup>Significant at the .05 level

TABLE 20
SIMPLE CORRELATIONS, SANCTION SCORES AND ASSAULT BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION SIZE
CALIFORNIA, 1969-71

JUSTICE STAGE		COUNTY POPL	JLATION		
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	62	<b></b> 58*	66*	46	
Pre-Trial	.52	.04	59*	54*	
Conviction	.32	48*	.28	.27	
Sentence	53	.09	.09	45	

<sup>\*</sup>Significant at the .05 level

TABLE 21
SIMPLE CORRELATIONS, SANCTION SCORES AND BURGLARY BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION
CALIFORNIA, 1969-71

JUSTICE STAGE		COUNTY POPUL	ATION		
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	46	71*	07	31	
Pre-Trial	.10	13	43	32	
Conviction	.43	.15	18	10-	
Sentence	31	.14 ·	01	39	

<sup>\*</sup>Significant at the .05 level

TABLE 22
SIMPLE CORRELATIONS, SANCTION SCORES AND GRAND THEFT BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION
CALIFORNIA 1969-71

JUSTICE STAGE		COUNTY POPUL	ATION		<del></del>
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	.44	57*	44	29	
Pre-Trial	36	03	.12	20	
Conviction	.43	.10	.24	.59	
Sentence	.18	29	.38	.57	

<sup>\*</sup>Significant at the .05 level

TABLE 23
SIMPLE CORRELATIONS, SANCTION SCORES AND AUTO THEFT BY
JUSTICE PROCESS STAGE AND COUNTY POPULATION SIZE
CALIFORNIA, 1969-71

JUSTICE STAGE		COUNTY POPL	JLATION	······································	
•	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	
Police	37	30	-,23	58*	
Pre-Trial	.30	17	28	52*	
Conviction	54	12	.00	01	•
Sentence	71*	32	02	.10	

<sup>\*</sup>Significant at the .05 level

TABLE 24
SIMPLE CORRELATIONS, SANCTION SCORES AND RAPE BY
JUSTICE PROCESS STATE AND COUNTY POPULATION SIZE
CALIFORNIA, 1969-71

JUSTICE STAGE		COUNTY POPU	LATION		······································
•	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	,
Police	31	.45	.23	.07	
Pre-Trial	02	34	53*	-,29	
Conviction	02	.25	.09	18	
Sentence	.20	.15	.50	18	

<sup>\*</sup>Significant at the .05 level

# 

TABLE 25

PROPORTION OF VARIATION EXPLAINED BY SANCTION SCORES AT

ALL JUSTICE STAGES, BY SPECIFIC FELONY OFFENSES AND CLASSES OF COUNTY POPULATION SIZE

CALIFORNIA, 1969-71 (Multiple R<sup>2</sup>)

OFFENSES		COUNTY P	OPULATION :	SIZE	
	OVER 500,000	100,000- 499,999	25,000- 99,999	UNDER 25,000	STATEWIDE
Homicide	.18	.11	.39	.52	.05
Manslaughter	.48	.40	.08	.45	.10
Robbery	.33	.37	.71	.17	.21
Assault	.63	.50	.74	.62	. 37
Burglary	.53	.54	.22	.17	.11
Grand Theft	.51	.44	.42	.50	.27
Auto Theft	.73	.47	.09	.53	.23
Rape	<u>.17</u>	<u>. 35</u>	.50	.14	<u>.31</u>
N	10	16	15	17	58

### TABLE 26 AVERAGE SANCTION SCORES BY FELONY OFFENSES COUNTIES WITH OVER 500,000 POPULATION CALIFORNIA, 1969-71

OFFENSE

					UFFER	ISE				
COUNTY	MURDER	MANSLAUGHTER	ROBBERY	<u>ASSAULT</u>	BURGLARY	GRAND THEFT	AUTO THEFT	RAPE		<u>X</u>
Los Angeles	.74	.48	.51	.48	.49	.47	.40	.53		.51
Orange	.71	.54	.51	.44	.42	.46	.46	.53		.51
San Diego	.55	.49	.57	.50	.43	.48	.45	.51	1	.50
Alameda	.72	.49	.49	.46	.43	.48	.40	.44	•	.49
Santa Clara	.83	.54	.55	.47	.46	.43	.41	.51		.53
San Francisco	.70	.52	.49	.47	.46	.47	.39	.47		.50
San Bernardino	.77	.51	.51	.46	.44	.51	.46	.51		.52
Sacramento	.74	.58	.53	.49	.43	.46	.39	.45		.51
Contra Costa	.74	.62	.49	.41	.45	.47	.44	.51		.52
San Mateo	.83	.64	.52	.46	.46	.42	.40	.46	•	.52
$\overline{X}$	.73	.54	.52	.46	.45	.47	.42	.49		

TABLE 27
AVERAGE SANCTION SCORES BY FELONY OFFENSES
COUNTIES WITH 100,000 to 499,999 POPULATION
CALIFORNIA, 1969-71

					OFFENS	SE			
COUNTY	MURDER	MANSLAUGHTER	ROBBERY	ASSAULT	BURGLARY	GRAND THEFT	AUTO THEFT	RAPE	X
Riverside	.69	.53	.50	.42	.40	.44	.40	.57	. 49
Fresno	.76	.51	.53	.42	.47	. 45	.41	.40	. 49
Ventura	.72	.64	.49	.47	.41	.39	.42	.47	.50
Kern	.79	.77	.56	.50	.53	.56	.43	.54	.59
San Joaquin	.74	39	.51	.47	.45	.57	.34	.43	. 39
Santa Barbara	.81	.48	.59	.48	.46	.50	.48	.53	.54
Monterey	.55	.49	.51	.49	.47	.38	.41	.52	.48
Marin	.69	.58	.50	.53	. 47	.49	.42	.34	.50
Sonoma	.78	.48	.49	.40	.43	.55	.40	.38	. 49
Stanislaus	.79	.46	.59	.49	.47	. 34	.43	.47	.51
Tulare	.72	.47	.58	.48	.45	.50	.41	.56	. 52
Solano	.83	.34	.49	.46	.45	.47	.42	.51	.50
Santa Cruz	.75	.48	.66	.47	.50	.57	.44	.51	.59
San Luis Obispo	.66	.54	.62	.50	.42	.46	.44	.49	. 52
Merced	.67	.36	.60	.60	.50	.53	.43	.41	.5
Butte	.81	.47	.52	.43	.46	.51	.43	.30	.49
X	.74	.45	.55	.48	.46	.48	. 42	.46	

TABLE 28
AVERAGE SANCTION SCORES BY FELONY OFFENSES
COUNTIES WITH 25,000 to 99,999 POPULATION
CALIFORNIA, 1969-71

OFFENSE X RAPE COUNTY MURDER MANSLAUGHTER ROBBERY **ASSAULT** GRAND THEFT AUTO THEFT BURGLARY Humboldt .52 .73 .33 .58 .55 .46 .56 .40 .55 Yolo .46 .56 .69 .81 .49 .53 .50 .46 .57 .42 .61 .39 .47 .44 .42 . 39 .45 .16 Napa .53 Shasta .39 .51 .60 .68 :62 .50 .45 .45 Placer .78 .46 .48 .48 .45 .54 .57 .59 .49 .53 Imperial .72 .67 .48 .46 .45 .54 .39 .50 .52 .70 Kings .75 .55 .48 .44 .38 .46 .40 .74 .57 Mendocino .46 .67 .57 .53 .54 .46 .56 .53 .54 .46 Yuba .56 .40 .58 .49 .16 .44 .52 .53 .25 .47 El Dorado .37 .46 .46 Sutter .43 .56 . . 37 .48 .49 .57 .33 .47 .45 .32 .39 Madera .74 .28 .61 .47 .49 .26 .57 .45 .47 Siskiyou .53 .29 .17 .60 .51 .49 .47 .46 .56 .47 .65 .31 Tehama .50 .27 .63 .25 . 34 .23 .15 Nevada .66 .28 .31 .53 .31 X .43 .64 .46 .48 .53 .48 .46 .40

TABLE 29
AVERAGE SANCTION SCORES BY FELONY OFFENSES
COUNTIES WITH UNDER 25,000 POPULATION
CALIFORNIA, 1969-71

OFFENSE <u>X</u> AUTO THEFT COUNTY MURDER MANSLAUGHTER ROBBERY **ASSAULT** BURGLARY GRAND THEFT RAPE Tuolumne .28 .44 .42 .30 .50 .71 .49 .39 .42 Lake .77 .29 .40 .21 . 39 .19 . 47 .53 .33 San Benito .32 .24 .37 .47 .44 .66 .56 .52 .14 Glenn .46 .37 .24 .45 .41 .36 .62 .57 .60 .42 Inyo .63 .32 .15 .69 .49 .34 .28 .43 .53 .25 . 34 Lassen .66 .28 .31 .31 .23 .15 .38 Del Norte .54 .28 .23 .42 .50 .47 .45 .18 .47 .49 .54 .53 .45 .46 Calaveras .40 .23 .20 .11 .38 .48 .22 .30 .63 .47 .44 .36 Colusa .29 .19 .41 .40 33 .21 39 Amador .38 .45 .28 .23 .42 .18 .50 . 47 P1umas .54 .72 .25 .21 .42 .40 Trinity .45 .25 .43 .66 .57 .23 .23 .48 .41 Modoc .31 .31 .59 .56 .42 .45 .72 .25 .43 .21 .40 Mariposa .66 .25 .57 .74 .46 .46 .56 Mono .67 .57 .53 .54 .49 .40 .31 .24 .22 .48 .48 .44 Sierra .56 .11 .38 Alpine .48 .36 .22 .30 .63 .47 .44  $\overline{\chi}$ .30 .57 .32 .31 .56 .45 .43 .33

TABLE 30

AVERAGE SANCTION SCORES BY JUSTICE STAGE COUNTIES WITH OVER 500,000 POPULATION CALIFORNIA, 1969-71

			JUSTICE STAGE		
COUNTY	POLICE	PRETRIAL	CONVICTION	SENTENCE	<u>X</u>
00 Los Angeles	.23	.72	.64	.47	.52
11 Orange	.28	.43	.76	.57	.51
14 San Diego	.19	.56	.71	.52	.50
20 Alameda	.25	.45	.76	.50	.49
22 Santa Clara	.29	.59	.69	.52	.52
21 San Francisco	.22	.52	.76	.48	.44
13 San Bernardino	.30	.49	.80	.50	.52
54 Sacramento	.33	.46	.70	.54	.51
30 Contra Costa	.20	.56	.78	.52	.52
33 San Mateo	.28	.60	.71	.51	.53
χ	.26	.54	.73	.51	
**					

TABLE 31
AVERAGE SANCTION SCORES BY JUSTICE STAGE
COUNTIES WITH POPULATION 100,000 TO 500,000
CALIFORNIA, 1969-71

		1	JUSTICE STAGE	:	
COUNTY	POLICE	PRETRIAL	CONVICTION	SENTENCE	X
12 Riverside	.29	.48	.65	.56	.50
40 Fresno	.29	.47	.73	.49	.50
16 Ventura	.34	. 34	.77	.55	.50
41 Kern	.33	.63	.74	.65	.59
45 San Joaquin	.29	.53	.65	.46	.48
15 Santa Barbara	.35	.52	.73	.56	.54
60 Monterey	.31	.56	.65	.40	.48
31 Marin	.25	.50	.80	.46	.50
35 Sonoma	.33	.41	.68	.53	.49
46 Stanislaus	.31	.62	.54	.56	.51
47 Tulare	.31	.59	.66	.52	.52
34 Solano	.30	.50	.69	.50	.50
63 Santa Cruz	.33	.48	.75	.64	.55
62 San Luis Obispo	.32	.48	.78	.49	.52
44 Merced	.36	.52	.66	.50	.51
50 Butte	.31	.51	.60	.55	.49
x	.31	.51	.69	.53	

TABLE 32
AVERAGE SANCTION SCORES BY JUSTICE STAGE
COUNTIES WITH POPULATION 25,000 TO 100,000
CALIFORNIA, 1969-71

		1	JUSTICE STAGE		
COUNTY	POLICE	PRETRIAL	CONVICTION	SENTENCE	X
75 Humboldt	.44	.59	.59	.47	.52
58 Yolo	.33	.56	.82	.55	.57
32 Napa	.24	.37	.65	.41	.42
55 Shasta	.35	.48	.74	.52	.52
53 Placer	.46	. 54	.64	.51	.54
10 Imperial	.46	.50	.68	.46	.53
42 Kings	.44	.57	.58	.48	.52
80 Mendocino	.44	.75	.58	.50	.57
59 Yuba	.31	.55	.57	.42	.46
74 El Dorado	.38	.39	<b>.</b> 67	-44	.47
56 Sutter	.30	.55	.59	.41	.46
43 Madera	.35	.46	.49	.48	.45
86 Siskiyou	.34	.54	.50	.44	.46
57 Tehama	.52	.46	.52	.40	.48
83 Nevada	.31	.32	.39	.35	. 34
X X	.38	.51	.60	.46	

TABLE 33

AVERAGE SANCTION SCORES BY JUSTICE STAGE COUNTIES WITH UNDER 25,000 POPULATION CALIFORNIA, 1969-71

		(	JUSTICE STAGE		
COUNTY	POLICE	PRETRIAL	CONVICTION	SENTENCE	X
88 Tuolumne	.36	.51	.51	.38	.44
77 Lake	.27	.40	.53	.37	.39
61 San Benito	.22	.52	.53	.35	.41
52 Glenn	.29	.59	.59	.34	.45
76 Inyo	.35	.48	.48	.34	.47
78 Lassen	.31	.32	.39	.35	.34
73 Del Norte	.23	.49	.42	.39	.38
72 Calaveras	.31	.49	.51	.34	.41
51 Colusa	.27	.39	.48	.36	.38
71 Amador	.27	.40	.53	.37	.39
84 Plumas	.23	.49	.42	.39	.38
87 Trinity	.30	.49	.52	.38	.42
81 Modoc	.37	.55	.36	.35	.41
79 Mariposa	.30	.49	.52	.38	.42
82 Mono	.44	.75	.58	.50	.57
85 Sierra	.30	.49	.42	.39	.40
70 Alpine	.27	.39	.48	.36	.38
x	.30	.48	.49	. 37	

### APPENDIX I

The classification of offenses used generally in this report is based on the "Standard Offense Classification for Criminal Statistics" as adopted by the judicial section of the American Bar Association and the National Conference of Judicial Councils. The modifications of the standards classification which are employed by the Bureau of Criminal Statistics of the State Department of Justice are due to California's assignment of some offenses to statutory categories which vary from those to be found in the laws of many other states.

### General Classification

- 1. Murder Includes all degrees of murder.
- Manslaughter Including vehicular and non-negligent.
- 3. Robbery Includes all offenses in which property is taken from the person or immediate presence of another through means of force or violence or by putting in fear.
- 4. Assault Includes assaults and attempted assaults which might result in severe bodily injuries to the victim. Includes attempted

- murder and all assaults and attempted assaults with the exception of assault to commit robbery or rape.
- 5. Burglary Includes all offenses in which any building or structure is broken into or entered with the intention of committing a felony or any theft therein at any time, either day or night. Includes attempt to commit burglary. Includes theft from locked vehicle and shoplifting. It should be noted that these offenses are often looked upon as petty theft by law enforcement agencies and therefore are not always reported to the state bureau as felonious acts.
- 6. Grand Theft Includes all felonious offenses of stealing which are committed under circumstances not amounting to robbery or burglary and attempts to commit such thefts. Any theft involving a value of over \$200 is felonious, as is the theft of certain specified fruits and nuts having a value of over \$50. In addition, the theft of any horses, cattle, swine, sheep, or goats is felonious regardless of value. Includes all offenses of fraudulent conversion, embezzlement, and obtaining money

- or property by false pretenses. Check frauds are not included in this class. Includes buying and receiving or possession of stolen property.
- 7. Auto Theft Includes all offenses in which a motor vehicle is stolen or driven away and abandoned by someone not having lawful access thereto. Includes attempt to commit auto theft.
- 8. Rape Includes forcible rape, statutory rape, and assault with intent to rape.

### APPENDIX II

These codes are used in Appendices III to XII.

### Bureau of Criminal Statistics County Codes

	_
County	County Code
Los Angeles	00
San Francisco	21
Alameda	. 20
Imperial Kern Orange Riverside San Bernardino San Diego San Luis Ohispo Santa Barbara Ventura	10 41 11 12 13 14 62 15 16
Contra Costa Marin San Mateo Santa Clara Solano Napa Sonoma	30 31 33 22 34 32 35
Butte Colusa Glenn Placer Sacramento Shasta Sutter Tehama Yolo Yuba	50 51 52 53 54 55 56 57 58 59

County	County Code
Fresno	40
Kings	42
Madera	43
Merced	44
San Joaquin	45
Stanislaus	46
Tulare	47
Del Norte	73
Humboldt	75
Lake	77
Mendocino	80
Trinity	87
Alpine	70
Amador	71
Calaveras	72
El Dorado	74
Lassen	78
Modoc	81
Nevada	83
Plumas	84
Sierra	85
Siskiyou	86
Inyo	76
Mariposa	79
Mono	82
Monterey	60
San Benito	61
Santa Cruz	63
Tuolumne	88

APPENDICES III - XII

\*All two-digit columns represent Bureau of Criminal Statistics codes identifying counties (see Appendix II).

APPENDIX III

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51 6.36 7c 82 3.1300 11 91.6500 10 139.0501 11 12 6.8100 10 139.0501 12 6.8100 46 2.8300 22 81.9200 40 139.0501 12 6.8100 46 2.8300 22 81.9200 40 139.0501 12 6.8100 40 139.0501 12 6.8100 40 139.0501 12 6.8100 40 139.0501 12 6.8100 47 136.6001 22 87 6.5100 34 2.0500 116 .620 12 6.8100 47 136.6001 22 6.8100 4		76 2 9 00					
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44         6.4600         62         2.4000         31         61.1507         32         124.6500         2           10         6.3101         40         2.3600         10         51.000         34         124.4500         2           10         6.3200         33         2.1000         47         .55.4700         .22         .120.3600         .21           43         6.1000         54         2.1402         50         56.1402         35         115.3100         2           51         6.4730         87         1.7500         35         51.4000         43         111.8200         2           54         6.6730         30         1.7600         16         48.0100         43         111.8200         2           54         6.9800         10         1.6800         83         43.0100         43         11.8200         2           54         6.9800         10         1.6800         83         43.0100         43         110.8300         2           54         5.9800         30         1.6100         43         43.0100         43         110.8300         3           55         5.9800         31         1.6							21
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51         A-6310         87         1-7503         35         51-4900         A3         11-8200         2           54         5-9310         10         1-6300         53         43-0100         61         105-9906         2           32         5-6400         51         1-6300         53         43-0100         73         105-3103         3           38         5-6400         70         1-5701         41         41-1500         73         105-3103         3           13         5-6400         70         1-5701         41         41-1500         73         105-3103         3           13         5-6500         45         1-2600         57         35-7200         80         -95-3500         3           55         5-2500         32         1-2600         57         35-7200         80         -95-3500         3           30         5-3500         37         1-2500         76         33-7200         80         -95-3500         3           30         5-3500         37         1-2500         76         33-7200         80         -95-3500         3           30         5-2500         37         33-3500	4.3		5.				27
76         C. 1302         30         1.7000         12         43.0500         11         104.8503         2           54         5.937.0         10         1.6300         53         43.0100         61         115.9906         3           32         5.657.0         51         1.550.0         43         40.2400         15         1.73.410.0         3           48         5.6400         70         1.550.0         55         37.6700         56         102.9600         3           75         5.5200         32         1.250.0         56         35.7200         80         95.3500         3           63         5.4500         57         1.250.0         76         33.7200         82         95.3500         3           75         5.5200         32         1.2600         56         33.1200         14         96.2700         3           75         5.5200         37         1.7200         62         95.3500         3           30         5.5200         57         1.32100         83         95.3500         3           75         5.1200         57         1.32100         60         2.2000         3         91.							1 26
54         5-9800         10         1-6800         53         -43-0100         61         105-900         31           32         5-6400         51         1-5700         61         41+1500         73         105-3100         33           13         5-6400         45         1-4600         55         37-4700         56         102-500         33           75         5-5200         32         1-2600         57         35-7200         82         95-3500         33           63         5-4500         57         1-2500         76         33-7200         82         95-3500         33           63         5-4500         57         1-2500         76         33-7200         82         95-3500         33           30         5-3300         44         1-1900         58         33-1200         14         96-2000         33           31         5-4000         44         1-1900         58         33-1200         14         96-2000         33         90-4300         30           32         5-1000         44         1-1900         53         32-1900         53         90-4300         33         90-4300         30         <							29
32         5.661.2         51         1.570.2         61         41.400.0         73         1.05.210.2         3           68         5.664.0         70         1.550.2         45         1.460.2         55         37.670.0         56         1.03.410.2         3           75         5.520.0         32         1.260.0         57         35.720.0         89         .95.350.0         3           63         5.450.0         57         1.250.0         70         33.720.0         89         .95.350.0         3           30         5.450.0         57         1.250.0         58         32.190.0         84         .95.950.0         3           73         5.140.0         84         1.190.0         56         32.190.0         83         .95.950.0         3           59         0.472.0         83         0.950.0         51         .32.190.0         83         .95.950.0         3           59         0.472.0         83         0.950.0         70         32.190.0         33         90.430.0         3           15         5.140.0         16         0.950.0         75         28.600.0         75         91.8246.0         4         91.824							
88         56:4400         70         1.5000         43         40.2400         10.334100         2           13         54:500         45         1.4600         55         37.4700         56         10.2500         3           63         5.4500         32         1.2500         70         33.7200         82         95.3500         3           30         5.4500         85         1.2500         58         23.1200         82         95.3500         3           30         5.1400         85         1.2500         58         23.1200         83         95.3500         3           59         6.0700         83         0.9500         51         32.1200         83         95.3500         3           15         5.110         16         0.9600         70         32.1200         83         93.8500         3           15         5.110         16         0.9600         70         32.1200         83         93.8500         3           15         5.010         16         0.9600         70         32.1200         33         90.4300         3         93.8500         3         82.8600         4         93.8800         4 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
13							
75         5.5200         32         1.2600         57         35.7200         82	•						
63         5.4500         57         1.2500         76         33.7200         82         95.3500         3           30         5.4500         86         1.2500         58         33.1200         14         96.2900         3           59         6.1200         83         6.9500         51         32.1600         75         91.5200         3           59         6.1200         16         0.8600         70         32.1600         75         91.5200         3           50         4.9000         71         6.8500         70         32.1800         75         83.8500         3           50         4.9000         71         6.8500         75         28.8400         72         62.8100         4           4.9000         77         0.8500         75         28.8400         72         62.8100         4           53         4.6000         47         0.8700         73         20.5800         51         82.4600         4           54         4.9000         77         0.8500         73         82.84600         4         4         4         52.8400         4         4         52.8400         4         4 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
3C         5-3200         86         1-2502         58         33-1200         14         96-2900         3           73         5-1400         44         1-1900         56         32-1900         83         95-3500         3           59         6-0700         16         0-8600         70         32-1800         33         90-4300         3           50         4-0000         71         0-8500         42         29-0200         57         83-8500         40           58         4-0000         77         0-8500         75         28-8400         72         62-8100         4           58         4-0000         77         0-8500         75         28-8400         72         62-8100         4           58         4-5000         42         0-7700         78         18-3800         70         82-4600         4           4         4-5000         43         0-7700         78         18-3800         70         82-4600         4           54         4-1900         55         0-7500         80         17-0800         75         61-0000         4           55         4-1900         72         0-7500							
73         5.1400         44         1.1900         56         32.1900         83         95.3500         3           59         0.0300         83         0.9500         51         32.1800         76         91.5200         3           15         5.0100         16         0.98600         70         32.1800         78         91.5200         3           50         4.9000         71         0.8500         75         28.8600         72         82.8100         4           69         4.9000         77         0.8500         75         28.8600         72         82.8100         4           14         4.9000         77         0.8500         73         20.5500         72         82.84600         4           4         4.9000         43         0.7700         78         18.3800         70         82.4600         4           53         4.5100         41         0.7600         84         17.0800         75         81.0000         4           55         4.1900         55         0.7500         83         10.1700         79         70.6600         4           40         100         72         0.7500							
59         C.0700         83         C.0500         51         32.1800         76         91.5200         3           15         5.0100         16         C.8600         70         32.1800         33         90.4300         3           50         4.0000         77         C.8500         75         28.8400         72         62.8100         4           54         4.0000         77         C.8500         75         28.8400         72         62.8100         4           54         4.0000         47         C.7700         73         20.5500         51         82.4600         4           53         4.5300         43         0.7700         78         18.3800         70         82.4600         4           86         4.5100         55         C.7600         84         17.0800         75         61.0000         4           55         4.1900         55         C.7500         83         16.1700         79         70.6600         4           79         4.1900         72         C.7500         83         16.1700         79         70.6600         4           72         7.500         75         15.7500							
15         5-0170         16         0-8600         70         32-1800         33         90-4300         34           50         4-9000         71         C-8500         42         29-0200         57         83-8500         41           4-9000         77         0-8500         75         28-8400         72         62-8100         41           14         4-5000         42         0-7700         78         18-3800         70         82-4600         42           53         4-5300         43         0-7700         78         18-3800         70         82-4600         42           86         4-5100         41         0-7600         84         17-0800         75         61-0000         45           79         4-1900         55         0-7500         80         17-0300         53         79-5300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         44         40-2300         40-2300         44         40-2300 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>,</td><td></td></t<>						,	
50         4.0000         71         C.8500         42         29.0200         57         83.8500         42         62.8100         4         62.8100         4         62.8100         4         4         65.620         72         62.8100         4         4         65.600         4         4         66.800         4         4         66.800         4         4         66.800         66.800         4         66.800         4         66.800         66.800         66.800         66.800         66.800							
59         4.9000         77         0.8500         75         28.8400         72         62.8100         4           14         4.5000         42         0.7700         73         20.5800         51         82.4600         4           53         4.5100         41         0.7700         78         18.3800         70         82.4600         4           56         4.5100         41         0.7600         84         17.0800         75         61.000         4           55         4.1900         55         0.7600         80         17.0300         44         80.2830         4           46         4.100         72         0.7500         83         16.1700         79         70.5300         4           46         4.1100         72         0.7500         83         16.1700         79         70.5300         4           33         3.5100         75         0.77500         83         15.7900         55         64.2700         4           35         7.7300         57         0.7500         85         64.2700         5         64.2700         4           72         3.6900         31         0.6100							
14         4.5000         42         0.7700         73         20.5800         51         82.4600         45           53         4.5300         43         0.7700         78         18.3300         70         82.4600         4           86         4.5100         41         0.7600         84         17.0800         75         61.000         4           55         4.1900         55         0.7500         80         17.0300         84         80.2830         4           79         4.1000         72         0.7500         83         16.100         79         70.6600         4           83         3.6100         72         0.7500         83         15.7900         55         64.9100         4           33         3.6100         72         0.77500         83         15.7900         55         64.9100         4           35         7.7300         52         0.7200         57         13.5500         59         64.2700         4           72         3.6800         31         0.6100         81         10.0400         79         60.2100         50           81         3.1200         15         0.6100							1 40
53         4.5300         43         0.7700         78         18.3800         70         82.4600         4.6000         <							41
86         4.5100         41         0.7600         84         17.0800         75         61.0000         4.6000         55         0.7500         90         17.0300         44         80.28300         4.6000         44         80.28300         4.6000         44         80.28300         4.6000         44         80.28300         4.6000         44         80.28300         4.6000         44         80.28300         4.6000         40         40.1000         79         70.6600         40         40.1000         79         70.6600         40         40.1000         79         70.6600         40         40.1000         40         70         70.6600         40         40.1000         40         70         70.6600         40         40.8600         40         70         70.6600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600         40         40.8600							42
86         4.5100         41         0.7600         84         17.0800         75         61.0000         4.5500         4.6000         <		4.5300	43	0.7700			43
55         4-1900         55         C-7600         80         17-0300         44         65-2830         45           79         4-1600         55         C-7500         83         16-1700         79         77-5300         4           46         4-1100         72         C-7500         83         16-1700         79         77-6500         4           33         3-0100         75         0-7500         85         15-7900         55         64-9100         4           35         7-730         57         C-7200         57         13-5500         59         64-2700         4           72         3-690         31         0-6100         79         12-4700         86         63-2100         5           81         3-1900         35         0-6100         81         10-0400         79         60-1600         5           81         3-1200         15         0-5700         87         55-8100         5           80         3-100         74         0-4500         71         5-9500         87         55-8100         5           82         3-100         47         0-4000         77         -8-9500	3.6	4.5100		0.7600		75 61.0000	1 44
79	55	4.1977	55	C.7533			4 5
46         4.1100         72         0.7500         83         16.1700         79         70.6602         43           33         3.0100         75         0.7500         85         15.7900         55         63.0100         4           55         7.7300         57         13.5500         57         64.2700         4           72         3.6600         31         0.6100         81         10.0400         79         60.1600         5           16         3.1800         35         0.6100         81         10.0400         79         60.1600         5           80         3.1600         74         0.4500         71         6.9500         87         55.8100         5           80         3.1600         47         0.4000         71         6.9500         87         55.8100         5           82         3.1600         47         0.4000         72         -8.9500         87         49.4830         5           22         2.6100         53         0.2700         86         6.7700         81         26.4200         5           31         2.0000         50         0.2500         86         6.7700		4.1000					4.5
32         3.0100         75         0.7500         26         15.7900         55         68.0100         4           35         7.7300         52         0.7200         57         13.5500         59         64.2700         4           72         3.6601         31         0.6100         79         12.4700         .86         .63.2100         5           16         3.1900         35         0.6100         81         10.0400         79         60.1600         5           81         3.1200         15         0.5700         87         9.8500         31         57.0300         5           80         3.1000         74         0.4500         77         -8.9500         87         55.8100         5           82         3.1000         47         0.4000         77         -8.9500         53         -4.94830         5           22         2.6100         63         0.2700         86         6.7700         81         26.8200         5           31         2.6000         58         0.2700         86         6.7700         81         26.8200         5           31         2.0000         50         0.2200							47
35         7.7300         52         C.77200         57         13.5500         59         64.2700         4           72         3.6800         31         0.61130         79         12.4700         .86         .63.2100         5           16         3.1900         35         0.6100         81         10.0400         78         60.11600         5           81         3.1200         15         0.5700         87         9.8500         31         57.0300         5           80         3.1000         74         0.4530         71         6.9500         87         55.8100         5           82         3.1000         47         0.4000         77         -8.9500         53         49.4300         5           82         2.6100         63         0.4000         77         -8.9500         53         45.45500         5           22         2.6100         63         0.2700         86         6.7700         81         26.8200         5           11         2.6000         56         0.2700         86         6.7700         81         26.8200         5           52         1.4300         60         60							4 5
72							1 6
16     3-1900     35     0-6100     81     10-0400     78     60-1600     50       81     3-1200     15     0-5700     87     9-8500     31     57-0300     50       80     3-1000     74     0-4500     71     5-9500     87     55-8100     50       82     3-1000     47     0-4000     77     0-8-9500     53     0-49-4800     50       22     2-6100     63     0-4700     72     7-3600     83     45-5500     50       11     2-6000     58     0-2700     86     6-7700     81     26-8200     50       31     2-0600     50     0-2400     52     -2-8500     63     -21-3600     50       52     1-4300     67     0-2400     52     -2-8500     63     -21-3600     50							1 - 53
81         3.1200         15         0.5700         87         9.8500         31         57.0300							51
80							52
82     3.1600     47     .4.4000     .77    9.9500     53     .49.4830     .56       22     2.6100     63     0.4700     72     7.3600     83     45.5500     56       11     2.6000     58     0.2700     86     6.7700     81     26.4200     56       31     2.0500     50     0.2500     4.2700     52     34.2400     56       52     1.4300     62     0.2400     52     -2.8500     63     -21.3600     56							
22							
11 2.6900 58 0.2700 86 6.7700 81 26.8200 59 31 2.0600 50 0.2500 85 4.2700 52 34.2400 50 52 1.4330 60 60 0.2400 522.8500 6321.3600 59							
31							
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			57	C • Z 5 T 1			
	.22	1::330_1	^	1:• 2433	L5Z <u>Z•65C0</u> _	<u> </u>	T55
EANS 6.875 2.276 82.022 124.518	. <b></b>			2 276	82.022	124.518	

### APPENDIX IV

				E PATE				
	<u> でんこさドヤさネーー・</u>		77-145-1	49]			<u> 105</u>	<u> </u>
74	_524g_1244_	21	1575175577	21	131341896	[21	7364275	1
21	2594.0000	74	A33.0901	L _	953.0300	•	53.7500	2
50	2530.0900	51	625.5000	. S.C	678.2000	20	39.6702	3
63	2223.1201	7.0	625.5000	4 C	775.0701	i Ž	34.4700	Ä
45	2145.4899	72	456.3097	5 4	671.7000	61	23.1866	5
12	2140.6166	6.7	450.5511	45.	- 645.5261	22	37.1300	
								6
9	Supp. 101.	54	443.5311	3.3	544.5501	3.)	29.4165	•
3 (	2012.7190	58	447.6199	22	562.1001	73	29.1500	1 8
4.3	1972.4237	50	429.7900	30	579.2500	6.3	29.5706	9
72	1845,7900	31	398.3501	- 13	456.4600	45	27.7300	- 10
32	1817.0000	71	397.7410	12	425.0701	4.6	26.9900	11
13	1772.3610	77	397.7490	34	425,7400	5.4	25.8500	iż
		60						
71	1766-1690		394 • 4930	1 4	41845000	11	24.5270	13
77	176601050	Ð	394.3231	63.	437.7500	- 15 <b>-</b> .	24.2430	14.
54	1.758.7905	76	393.7691	46	374.9700	4.7	23.7376	15
97	1746.5550	37	386.2000	41	35845601	P 4	23.4919	16
94	1721.1999	45	378.5001	31	798.3900	13	23.2202	17
79	1645.6590	93	275.7700	- 74 -	362.7400	41	. 223CC	is
11	1639,1690	34	364-54))	35	359.3501	74	22.2420	19
35	1612.9500	40	353.2500	11	355, 9390	59	22.0600	20
41	1 60 5 + 92 0 0	63	354.4299	G C	345.5000	35	21.6000	21
4 E	1534.5100	46	354.3501	5 E .	342.6399	i 15	21.1900_	22
3.4	1.560.2500	33	346.1570	50	316.7600	71	20.4600	23
3,3	1504.9390	12	344.9297	1.6	308.9600	77	20.4500	24
50	1600,4701	97	341.4227	47	243.2900	33	20.4500	25
47	1409.0360	41						
			338.5100	. 56	277.8101	55	- 20 - 2990	26
1 1	14-3-3000	SC	337.7600	1 C	27309501	62	19.5700	27
53	1420.3740	79	329.3501	61	259.8501	14	19.6300	25
5.5	1415.03(0	35	318-2300	59	253.2400	34	19.2700	53
60	1412.3772	10	312.4502	. 15	255.5801	1. 83	19.7595	32
51	1305.6200	56	303.2100	53	350.9500	56	13.4860	31
75	1345.3270	iì	307,1939	71	244.2770	ได้ก็	17.6900	32
55	15000000	53	305.6693	77	244.2700	10	17.4507	33
59	1247,0500	13	300.1490	44	. 235,5910	47.	17.2600	34
15	1294.0000	57	298.1293	55	232.4500	59	15.7600	35
31	1263.3600	16	292.1499	73	229.7700	31	15.7433	36
83	1249.7090	73	279.4900	32	. 220.5000	ec	15.8500	37
57	1236.3700	61	254.7300	. 52 .	207.4500	. 82	15.8500	-33
61	1234.5070 •	15	254.5400	75	201.6200	50	15.2000	
59	1192.48=0	59	267.4193	88	270.7300	75	14.4500	40
56	1151,5560	2د،	255.7700	51	1970:5500	44	14.3400	41
62	1103.4590	75	238 4600	70.	. 167.0500	32	14.2200	42
14	1050.5500	85	237.9700	78	183.9200	51	14.0803	43
8.8	1034.1000	62	237.970)	42	190.3100	7.0	14.0800	44
4.4	1033.4090	22	234 4500	76	179.8200	43	13.1600	45
	1037.4190	47	230.9500.	79	170.41CC .	52_	_12.5400.	46
		27				42		47
10	1610.1799		556.4500	80	152.0000		12.7700	1
42	987.2821	14	228-8500	82	165.5000	73	11.7500	4.8
30	941.4199	88	225.5400	43	158.2600	79	11.7007	40
82	941.4190	32	209.1200.	. 57	_135°9000.	le1	10.0400	. 50.
43	914.3301	52	201.1970	54	135.9100	53	9.3800	51
73	500.7500	55	196.1000	86	134.6900	72	9.2000	52
76	785.1121	75	190-5100	72	104.9000	57	3.4760	53
86	655•2150	86	164.7933	52	92.4500.	75	8•2560	5 4.
78	69Ç.1699	43	163+6700	53	95.4400	E7	6.5700	5.5
52	667•7700	F1	160.6600	87	86•6400	రిస	5.0200	56
81	656.0400	43	150.5200	81	75.9800	65	4,2700	57
8.5	237.1000	55	. 93.7000	95	. 14.0522	89 .	2.2650	5.8

			APPE	VDIX V				
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.33	C. 9548	15		82		-89	-0.0543-	
60	0.3644	58	0.6567		0.5821	79		· 3
			2.6557	5)	0.6250		0.9710	3
54	0.5599	53	2.5667	6.8	0.550C	87	3.4712	4
34	( . 9571	41	0.5833	75	0.5005	85	3-5641	5
57 .	0.9555	15 .	.0.5000	57	O.5556	76	Q.RS60	- h-
10	0.4514	74	0.5000	7.5	C+500C	52	) • 954P	7
35	0.3537	75	0.5000	3.7	0,5000	23	C.9297	5
40	0.9492	96	0.5000	1 1 4	0.44936	÷5	J.P297	0
53	0.7875	1. 16	- 0.4305 -	- 51 -	U. 4722	57	2-11290-1	1.3
42	0.0455	1 32	0.3750	70	0.4722	44	0.7738	11
11	0.3961	56	0.3750	74	0.4614	7.9	0.7423	12
15	0.6958	65	0.3333	44	6.4458	83	0.7423	13
16	0.8836	75	. 0.3211	- 15	Q.421A .	56	0-7035-	1-
13	0.9030	7 2	0.2550	10	0.4129	85	0.6667	15
46	0.9742	83	0.2557	35	0.3000	55	0.6380	15
75	1.3750	7.1	0.2500	4.7	0.3980	54	0.6173	1.7
41	. 0.8651	44 .	0.2500	53	C+3980_	4.3	0.5045_	18-
12	0.5514	50	0.2500	4.2	C.3916	45	0.5916	19
47	0.9417	55 .	0.2500	43	0+3746	33 .	0.5939	8.0
50	C - 5135	5.0	0.2500	52	0.3712	74	. 3.5665	21
45	0.3094	51 .	0.2500	. 6C_	0.3534 .	51	J-5614.	22 .
Ö	5-3706	71	0.2500	16	0.3367	70	205514	23
รล	U. 2000	77	0.02500	4.3	0.3398	10	20-521	2 4
30	7074	25	0.25/7	41	C. 324F	15	0.5451	5.2
71	0.7517	45	0.2458.	51	D.3183.	34	0.5352_	26.
77	0.7017	1 12	0 = 2389		0.3152	15		27
				40			7.5216	
43	0.7512	53	0.2345	11	.D.3096	31	0.5181	28
62	C. 7731	13	0.2350	12	0.2985	42	0.5163	5.3
44	0.7650	4!!	0.2100	22.	0 <b>.</b> 2963	75	0.5141 <sub></sub>	30
32	0.7576	3.5	0.2167	34	C-2943	14	0.5139	3.1
63	6.22.9	72	0.2125	56	C. 282≎	61	J. 4845	3.5
74	0.7208	5.4	0.2033	१५५	0.2833	35	0.4871	33
30	0.6512	51.	0.2000 .l	54	O# 2800 . l	60 -	C 4830	34
21	C-6580	70	0.2000	45	0.2755	22	2.4736	3.5
59	r.6500	70	0.2000	50	0.2751	58	0.4731	3.5
76	0.5510	87	0.5000	41	G-2705	11	3.4698	37
.30	0.6359_	58	0.2500	73-	C.2694	62		38-
82	0.5389	22	0.1943	80	0.2694	13		39
31	0.5750	33					2.4606	49
			0 • 1 723	59	0.2672	47	0.4406	
8.8	0.5633	73	0.1515	52	C • 2500	2.0	C-4375	4 1
13	0.5555	_ 84	0.1515	} 2	0.2346-	A Q		42-
51	0.5000	43	0.1254	31	0.2300	73	0.4254	43
70	0.5000	35	6.1253	55	0.2250	84	0.4254	44
72	0.5003	46	0.1250	٥	3.2172	63	0.4039	45
. 79	0.4500.	57	- 0.1250-	75	£895.0	2.1		A 5
27	0.4570	9.0	0 - 1 2 5 7	72	0.2083	72	0.4033	47
36	0 - 3750	81	0.1250	77	0.2033	57	0.4020	4 8
78	0.3333	62	0.1250	32	0.1979	45	0.4010	43
83 -	0.3333	47	0-1244	- 33	0.1923	50	0.3880. ·	50-
55	0.3220	60	0.1185	76	0.1750	12	C • 3916	51
56	C • 28.95	21	0.0913	79	0.1667	41	0.3730	52
	0.2500	50	0.0714	87	0.166	71	0.3517	53
52		1.34	- 0 • 0 <del>1</del> 2 5 1		0-1 558	77	Q • 3517	54
52 61	0.2500							
52 61 85	0.2222	52	0.0525	3 <i>°</i>	0.1283	0	0.2967	55
52 61					0.1283 0.1204	0 81	0.2967 0.2539	55 50
52 61 85	0.2222	52	0.0525	3 <i>°</i>				

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MEANS

### APPENDIX VI

		APPE	NDIX AI			
		POL	ICE SANCTION P	4755		
	はいしばじがさく	GRAND THEFT	AUTO THEST	•	5.45%	DANK
55	7.67.64	TT52	7	71-1-53		11
1 57	0.3463	57 0.2499	85 0.50		0.7500	. 2
81	C • 1 7 ÷ 6	79 0.2347	81 0.42	11 57	0.7333	3 1
72		87 0.2257	52 C.35		2.7235	1 4 1
1 73		42 0.2325	72 (.3			5 1
94		90	94 0.33			1 .6
76		82 0.1851	80 0.2		0.5706	7
1 80		72 0.1692	45 V°5		0.6500	l é l
82		55 0.1662	10 0.20		0.6130	6
						13.1
86						
52		81 0.1524	88 0.17			11
14		21 0.1523	75 Ce16		2.5591	12 '
A5		73 0.1492	51 C.15		0.5093	13
10		54 0.1492	70 C.15		0.4934	
56		76 0.1417	53 0.14		0.4938	15
44		12 0.1287	71 0.14			16
43		75 0.1249	77 0-14		0.4234	17
8.5	0.0891	44 0.1155	76	33   _79	4111 .	1181
1 42	0.0671	13 0.1154	62 0.14	25 1 83	0.4111	19
1 75	0.0849	78 0.1137	44 0.13	253   54	0.3850	20 1
1 15		83 0.1139	35 0.12			21
60		15 0.1136	l. 12 C.11			22_1
47		20 (.1133	63 0.11		0.3680	23
4.6		85 0.1070	AC 0.10			1 25
1 0		14 0,1064	72 0.10		0.3466	25
31		56 0.1057	1. 26 0.09		2 0.3333	26
1 59		59 0.1003	13 0.79		0.3272	27
1 34		10 . 0.0753	11 0.00		0.3225	23
74		88 0.0979	58 0.00		0.3210	20
			1 14 0.09			30
35						
61		62 0.0949	34 0.08		0.2857	31
62		45 0.0397	50 0.58		2.2657	32 !
13		16 0.0895	42 000		0.3616	33
1 1 1		63 0.0376	79 _ 0.07		. 0.2806	34
15		46 0.0371	87 0.07			35
58		54 0.0967	32 0.01			36
22		22 0.0849	1 41 C.O7		2.2708	37
1.21	C-0553	47 0 . 2847	. 40 0.27		2654	1 381
71	0.0653	11 0.0836	42 0.01	778   E1	2.2667	39 1
77	0.0553	41 0.0827	1 31 0.07		3 • 24.37	1 40 (
45	6.0537	60 0.0736	0.07	39 63	0.2366	1 42 1
1 54	0.4637	71 0 • 0 777	1_15 _ 0.07		2 0.2350_	1 421
1 20	0.0621	77 0.0777	1 46 0.27	21   59	J•227€	43 1
12		53 6.6707	78 6.07	C1 21	0.2220	44 1
1 50		58 0.0682	1 83 0.07		3.2190	45
1 41		61 2.0579.	SC C.C.		3.2128.	46
40		34 0.0025	33 0.06		0.3083	47
51		74 0.0614	47 0.06		0.2059	AR I
70		8050.0 EE	45 0.05		2.1973	49
32		350.0577	590.05		C.1981_	50_
75		50 0.0514	54 0.05		0.1786	51
82		32 0.0591	22 0.05		2.1770	52
79		40 0.0474	55 0.05		3.1667	53
				12 72	0.1667_	54
67						55
53		31 0.6409	21 0.05		0.1667	
33		£1 0.0350	61 0.24			56
63		70 0.0329	16 0.04			57
: T30	<u> </u>	L_852.0273	L_562•Q3	163 1 52	2*1151	1\$&1

### APPENDIX VII

14)	12770	.124:51	1 411044772		MITICH RE	د د د	.554U <sub>2</sub> T	5 4 NK
<u> </u>	T					7 -	1.0443	77-
30	0.000	23	2.44147	5-2	0.0508	F ?	೭.೯೯೭3	1 2
75	0.655a3	3	240751	4.2	V * 53.30	1 51	1.2167	1 3
34	1,02751	41	7. 5752	نوچہ	0.7500	1 75	0.5157	1 6
٩ç	Cauren 1	5.5	์ ผู้ห่าวรู้ เ	20	7300	57	7.7847	5
82	1.5550	45	3.8123	35	7.391	75	2 . 7 = 1 5	. i
35			7637	42			2.7553	7
	147427 1	21			0.4944	61		
4 ?	0.9471	71	(7=77	15	CARDS	55	2.4971	9
3.3	0.5761	11	·1 • 7=51	41	1.4450	1 0	7.544	. 9
50	0.9377	<u> </u>	N.7725	ا ا	0.6512	5.2	.0.6252.	1 1.0
G	0.000	14	じょフラうな	4.3	C+6597	81	1.6250	1 11
41	ا جو بن هم	1.5	0.7500	t	0.5552	1 11	7.6154	12
46	n. chuh	34	0.7500	61	2.6570	1 75	2.5891	1 13
71	C . 5.7 . (	43	0.7500	47 .	C . 5 - 81	85		ــة ئــــاـ
77	0.475	53	7.756	44	0.5300	Fi	7.5735	15
	7,02,72							
7.8	0.5750	<u> </u>	0 * 5 % 0 .0	50	0.6030	F.5	2.5085	16
83	0.3750	BC	J • 7505	7.5	0 6 60 1 1	73	)•=0(°	17
45	000554	ยล	0.47300	l 30 .	. 0.5849	83	ಬಿಕ್ಟನ್ನಲ್ಲಿ	J 18
43	0.2567	46	3.6200	l 21	0.5018	60	0.4803	1 1 9
40	0.2740	22	0.46752	3.3	0.3656	5 5 5	3.4764	1 20
74	(.8333 )		6.6742	32	0.5655	1 45	0.4621	1 21
13	0.8291	12	0.6532	]	\$.5475 .	1 44.	2.4552	122_
15	6.3.41	\$5	C.6533	50	0.5427	14	0.4500	23
							2.4454	
50	0.2125	74	0.6500	53	0.5406	45		24
7 4	F. 755 - 1	4)	1.00250	1.5	0.42350	72	0,4353	5.5
21	0.7953	67	0.650A	20	0.5163	73	- 0.4252	- 26.
20	( - 7 P. C )	75	0.45547	5.5	0.5056	1 84	0.4252	27
47	0.7621 1	53	0.5125	4.5	0.5051	85	0.4252	23
31	167659	14	0,5136	54	3.4850	53	3.4054	50
32	0.7520	Ž.	. 0.5000	i 10	0.4823	1 31	2.3731	1. 35
52	2 3 75 5 6 1	43	1,05000	14	1.4758	1 47	7.3534	21
72	7510	57	0.5000	1 53	7.4793	1 1:	0.3571	3.2
73	Ua 7500	59	0.45600	31	C • 4 6 9 B	21	2.3557	3.7
8 4	0.7570	52	0.5600	AC	- 0.4562	2.2	0.3516	36
55	J•7535 1	55	0*4403	11	0.4172	15	0.3457	7.5
9 K	0.7500	71	0.4500	73	0.4167	5.9	0.3415	1 36
91	C. 7245	77	0 = 4500	ع۾ ا	0.4167	4.2	0.3297	1 27
11	2.7227	65	0.4500.	85	9.4167	68	<b>9.</b> 3132	1. 38
54	0.6971	13	0.4255	56	0.3833	52	3.3046	3 3
53	C. 6433	76	0.6125	3.5	1 3523	1 2	9.2647	60
44	0.4881			50			7.2841	41
		72	0.3175		0.3750	37		
76	5.6533	15	0.2503	52	C+3750	555		4 2
16	0.4576	32	C ● 3 2 4 C	75	0.03750	33	7.2531	4.3
12	6.6714	.35	0.42500	5.9	0.3750	3.5	0.2738	4 2
61	0.6250	45	0.2500	74	0.3474	40	0.2694	45
62	0.6253	51	0.2558	35	0.3131	1 20	4.2641	1 45 -
iċ	0.5000	61	0.2500	16	0.2793	-63	3.2546	1 47
51	0.500	76	0.2511	51	0.2500	71	1.2437	49
53	7.5070	74	1.2514	70	0.2500	77	2.2437	1 46
		78.		71	- 6.2560	53	- 0.2391 -	50
70	2.5000		0.2500					
70	5.51.50	คร	0.2500	77	U + 5 2 U U	4.3	2.2336	51
87	0.5000	56	ម•ខ្≲ាំង	79	0.2500	34	2.2227	52
55	0.4376	47	r•2455	S.C.	0.2500	13	0.2267	53
56	0.3750	73	r.2225	. 97	. 0.2566	54	. 0.2079	54-
5,3	( - 75+2	44	0.2555	RI	6.1500	111	3-1498	1 55
57	1 = 2 ] = 1	85	2.2705	57	( . 1250	35	2.1442	5.5
60		46	0.2300	72	0.1250	74	0.1433	57
0.0	0.2555	<u>63</u>	0.2200	76	6.1250	16	<u>3-1032</u>	Šá.
96								

MEANS .731 .529 .486 .429

			APPENDI	TIM S	בנם מחודאי	£ Ġ		
	1225.228		・つ サビーガオ	Z11T		215		2274
42	77777777777777777777777777777777777777			37		6.7		7
42 51	7 m 7 h 7 m = ( m 7 m 7 g = (	R/- ₽2	709572	4.	1.812P	: 63	0.9190 1.9764	1 2
3.7	(877.54)	73	2.05)	56	0.5933	55	3.2333	1 4
8.2	7754	ค์ลั	3.3563	1	0.5511	ર્ટ્સ	7.7575	5
άÌ	7: - 1	e 3	າ ຕີເຕີ ໄ	51	1 = = 761	ເໍ່ວ	3.7433	ić
57	007175	6.2	1.6775	5:	5.5336	Ę	りょフィネス	7
r	7.73.73	75	1,0207	72	0.5100	73	7.7434	1 5
78	107110	G?	1.04213		2.4742	45	) • 7 E 0 C	1 3
, P S	(.C=77	3.5	2.8737	52	0.4306	81	0.7500	10
9.6	0.6575	75	0.2525	7.7	0.4135	75	2.6725	11
51	(-(773	41 52	0.9624	84 85	7.4135	61	7.5557 0.5571	12
70 75	0.6773	10	7.8532 \n4264	د در در در	9.4135	12 73	. 0.6502	13
45	0.5065	-60	V 6125	44	0.4055	57	).650C	15
63	5,5014	71	1 4 1 1 2	47	0.4000	e a	3.4257	1 16
5.5	1,5412	77	ח פוח יו	38	107059	è5	0.4250	ĺį
66	00.72	74	C.7395	£à	0.3595	63	3.5242	1 18
59	0,6462	47	U.7722	1 =	0.3723	13	5.5741	1 19
33	0,5556	40	7.7623	<u>ም</u> 8	C.3543	15	0.5510	20
47	0.35-1	50	0.7556	7(	0.3125	10	0.5500	21
15	(45514	53	C • 7222	3.5	0.3053	53	C . 5475	- 22
50	0.5272	13	7,6697	4.1	0.3045	59	7 - 5 - 5 5	23
K A	0.5350	1 4	0.6935	57	0.3019	3.0	0+5313	24
7.7	5,5516	20	r = 6 = 5 2	73	0.3000	14	3.5338	25
# 4 # 4	C.5316 (	34 20	0.6749	97 54	0.3000	45 42	0.5109 0.5000	26
16	(45704	15	0.6146	1.0	C-2855	88	0.5600	23
40	(6530)	ร์ก	C.5103		0.2766	62	9.4583	1 29
33	0.6007	72	55004	3 3 3 2	0.2716	21		l žá.
54	5.46.50)	37	(	40	0.2664	72	6.4555	31
5.5	0.4742	31	7.5907	P 7	0.2060	11	0.4451	3.2
42	5.47"!	6.5	0.5574	21	0.2623	3.4	0.4158	33
21	U. 40 ft 9	12	0.5125	4 (	i.2563	54	C - 3525	34
75	0.4674	51	0.5700	13	0.2524	31	0.3708	3.5
50	0.4315	32	0.4682	51	0.2500	77	0.3655	35
13 45	0.4305	11	0.4979	7( 91	0.2500	35 15	0.3632	36
31	0,42±0 0,4235	31 43	3.4595	62	1 0545°C	7 <u>0</u>	0.3725	3 3
41	644370	40	3.4455	75	0.2444	27	0.3553	ã ?
34	0.30'56	33	0.4632	31	C.2324	5.5	0.3485	41
2.0	C.3919	54	0.4529	46	. 0.2232	75	0.3333	1 42
14	2.7751	79	2.4333	71	C-2222	40	0.2557	43
54	0.36%7	97	0.4333	77	1.5555	32	0.8500	1 44
12	0.3549	60	007537	12	C+1988	4.3	0 <b>.</b> 2500	4.5
43	0.3358	61 -	0.3535	34	1.0.1800	5 7	_ 6.2526-	46.
3.5	0.3110	42	0.3431	2 C	(-1649	73 73	0 + 2500 C • 2500	49
62 35	0.36-30	51 70	0.3333 25550	47	0.1667   0.1528	7 T	0.2500	64
74	0.2953	76	0.3025	62	(-1516	9.4 9.4	0.2501	5.5
íi	0.2724	46	0.3019	7.4	0.1379	as .	3.750.5	โ ร์เ
71	0.2795	32	2.2750	30	ř-1331	44	0.2000	52
77	0.2796	15	6.2722	11.	C • 1 382	50	C+1565	53
79	( . 25:17	63	0.2333	51	0.1250	51	3.1250	54.
57	(*3510	55	0.2793	76	001250	7 C	0 - 1 2 5 2	55
16	0.8500	57	2*1950	7.7	0.1252	52	041552	55
7 9	0.1523	79	2.1351	3 5	7.1047	71	7 - 1 52 5	57
_32	0.2823_1	53	[255]	15	£ <u>•£993</u> _L	77	2 <u>e</u> :5 <u>2</u> 5	125
								•
LANS	.490		.601		.317		.471	
			, , , , , ,		<del>- •</del>			

APPENDIX IX

กกรปรช	NENEL THURSAL		CONVICTION I	40	SAULT	CANK
74 7.27		*~T~~~**	7. 4444			
63 0.90	62 16 0.999	74	6.9361	55 -	J.5349	2 -
58 6.57	92   58 0.9366	5 1 53	0.2523	32	0.7674	3
31 G. 47			C.8447	6.5	0.7521	4
70			6.9417	53	0.7259	. 5
87 0.35			- 825300	ļ31	0.7255-	6-
86 0.31			r.4125	71	C.7222	7
53 0.79			0.7950	77	0.7222	8
15" 0.79			0.7955	15	2.7119	9
56 C.75				75	-0+2083-	
34 0.74			0.7595	1 13	0.4640	11
10 0.74 22 0.73			2.7958	21	0.6884	12
			0.7531	63	0.6869	13
41 -0.73				52		15
13 0.71			0.7770	20	0.5610	15
62 6463			0.7734	44	0.6604	17
33 C.68				7-		1.5.
16 2.46			C. 7674	51	3.6444	19
80 0.56		- :	C. 7629	70	3.6444	20
82 0.66		- !	0.7622	lii	0.6442	21
12 0.56			Ø.7563	123	3.6392	22_
45 0.55			C. 7559	34	0.6302	23
36, 00 46	65 55 0.7500	34	0.7352	60	0.5053	24
81 0.59	37 79 5.7500		0.7335	7 7 7 7	0.0071	25
20 . 0.64	73   87 0.7500	)   15	0.7262.	67	0.5071-	26-
21 0.63	92 1 40 0.6944		6.7244	59	0.6042	27
40 0.63			0.7222	72	n.5972	-28
42 0.53			(.7117	54	3.5691	29
46 0.63					<u>-</u> -2.5857	210
73 0.52			(, 7 (, 7 0	1 -	0.5900	31
84 0.63			0.5827	! 81	0.5833	37
85 0.43			U. 66.59	15	3.5820	33
75 0.61			0.6258	75	1 - 5 1 24 - 1	34-
0 0.60 54 0.59			0.5550	1 "	0.5578 0.5536	35
76 (59			0.5868 0.5803	61 57	0.5506	36 37
.78 . 0.59		52-		]		38-
83 6.59	95 61 P.550	AC.	0.4222	45	0.5329	3.9
11 0.53			C. 4222	33	0.5243	40
35 0.57			r. 4167	12	0.5233	41
47 0.56			U-3AE9	43	-0.5064 -	A 2.
50 0.55			₹.2650	1 12	0.5056	43
71 0.55		.   27	0.2850	35	0.4971	4.4
77 0.55			0.2500	1 53	3-4957	45
61 0.55	55   83 0.3333	3   - 57-		42	0.4886	46-
60 C. 57			C+520C	85	J.4782	47
51 3.50			0.2500	55	0.4778	48
70 0.50			C * 2500	53	0.4752	49
.44 D.4F			0 • 1 5 67 -	41	064B	50
43 0.47			0.1667	73	0.4500	51
32 0.45			0.1667	84	0.4500	52
55 0.45			C.1667	85	0.4500	53
.52 0.41				83	2.4471	55
57 0.41			0.1667	45	0.2329	56
59 0.35 72 0.25			0.1333 0.1333	73	0.3333	57
88 C. 20				A3	2.3232	5R-
			.574	•	.587	-
EANS .63	.609		. 5 / 4			

APPENDIX X

			APPENDIX	C X			
			L TV:	L OF C	CHVICTION R		
21	1231457	75 L NY			<u>1                                    </u>	515	
1 / 1	, , , , , ,			7.7			7 1 - 1 - 1
77	L n - 1 - 1	31	6.5757	4 =	0.9306	63 (.777)	
57	0.5492	e n	7.5315	1.1	7.2140	33 3.734	
63	1.9615	4 !	2.5473	£ H	6.49197	13 0.7259	
56	0.0.35	53	0.823	32	0. FCH3	34 0.694	
31	5 · P	71	2.0273	÷ 3	0 • 8 <u>- 27 6</u>	21 3.583	
52	5,5017	13	76-27-	25	110 4750	20 3.067	
63	164727	40	N. AC 75	3.6	De Keal	11 7.658	
16	\$0.70f6	15	2.9721	3:	n. 4405	47 1-651	
1 1 1	103574	30	6.6.77	13	5.9305	60 . D.651	
21	1.5540	÷1	C. 117.6.6	41	0.970	41 0.548	
4.2	Co 55 37	25	0.8743	1.5	0.8255	15 0-547	
13	0.3525	53	0.7931	5.0	0.5250	59 0.645	
7.8	9.9533	1,	7.7953	25	C+82C4	15 J.c42	
5.3	(. 957)	73	6.7917	21	0.5142	75 7.504	
35	0.875?	77	0.7317		1) . 2 . 3 . 3		7 1 1 5
1 40	5,4350	55	0.765	14	0.7513	14 0.5817	4 1 1 1
30	0.9294	c.7	0.7917	90	2.7997	44 0.555	
41	0.5273	54	0.7722	2.5	11.7907	10 0.5545 54 0.545	
2.5	0.010-	58	2.7625	7.1	707850	24 0 543	ź   <u>²''</u>
50	0.0167	11	0.7624	40	0.7642	0.544	5 21
4-	C. A1 A5	15	0.7575	?? 43	0.7555	120.539 59 ).566	23
53	005151	36	0.7450	4.3 8.8	0.7500	76 0.5000	
77	005171	27	0.7433	45	0.7462	22 3.49%	
	0.60.53	45	2.7354	22	C.7450	33 . 0.497	
55	0.7943	25	0.7743	30	C.7417	47 3.439	
56	0.7914	3' 44	0.7335		0.7467	31 0.437	
51	5.7912	76	0.7217	1 c 53	0.7332	55 9.437	
75	7840	50	0.7153	54	0.7220	95 0.430	
1 5 7	0.7953	1 4	0.7071	44	5.7130	32 0.430	
33	0.7739	33	0.7007	47	0.7074	79 7.422	
54	4.7735	75	0.5251	75	0.5645	87 0.422	
25	C. 7562	35	2.6944	12	0.6372	45 3.382	
14	0.7656	50	C WHER	2 5	0.6315	35 0.333	
72	0.7052	72	0.6833	10	0.5996	43 0.332	
44	0.7551	34	C.6739	57	0.5833	46 2.327	37
62	n. 75 sn	47	0.6723	71	0.5933	61 2.291	
65	0.7505	ń	0.6442	77	0.5633	55 2.277	
43	0.7452	33	C.6435	73	1.65555	F2 0.250	
10	3.7473	12	0.6313	2 8	0.5556	72 0.251	
lis	0.7451	62	. 2.6727	.85	C.5556	£1 0.250	
1 51	2.7333	42	0.6134	č	0.5535	85 0.250	
170	0.7333	ร์เ	0.5472	é Č	0.5351	55 0.250	
1 6	0.7252	82	2.5472	51	0.5278	71 2.244	
47	0.7220	46	0.5319	. 70	C.5.78	. 77 3 . 2 c A c	
22	r.7223	44	7.5776	42	0.5000	79 0.2000	
74	0.7169	79	Gestagn 1	5 ?	V.5666	83 0.200	
76	0.7143	e7	0.5007	56	0.5000	53 9.145	
80	0.713= 1	75 .	2.4532	76 .	2.4167	.50 0.1250	
92	C.7130	78	5.3631	74	6.3393	51 0.125	
12	1.7055	4.5	0.3641	79	0.3000	77 7.125	
46	(.7047	73	0.3065	97	0.3000	42 0.111	1 1 53 I
73	0.00-7	54	1.3055	59	. 2.2500	32 0.0833	54 1
. 64	0.6847	5.5	7.5055	61	0.25(0	73 (1.6.5)	3   55
35	7.6647	47	1.2341	7.6	0.2500	24 7.(93)	
79	0.4167	61	L. 2222	à <del>,</del>	0.5672	AS 0,063	5   57
37	5.4167	21	(60377)	21	201557	57 0.722	
	201		<i>c</i>		(==	137	
MEANS	.784		.658		.655	.417	

APPENCIX XI

			AFFE				•	
	VI)コヘビニ	V2.N.S1	<u>(</u> 47.		59 NT FROE 271 112 124		SCULT	PANK
50	1, 6157				***?;;55;73-1	=		T-3512
71	5. 275	41	0.7235	61	2.7223	98.	0.7222	2
77	C. 0760	42	7417	46	6666	46	3.5837	3
53	2.8611	47	1.6125	7.5	7.5672	5 }	9.5523	4
43	0.9333	5 <i>F</i>	0.6250	55		4.2		- 5
					0.5500		3.5677	
72	0.3333	10	2.6543	5.0	2.6304	72	5417_	
79	0.0323	55	002235	7=	1.6250	£ 3	2.5417	7
9.7	0.4373	75	· 4 5425	3.3	7-6151	21	0.5507	8
67	0.63.33	55	~ c = n 1 7	6.5	51 9 1	5 a	0.5349	9
15	. P. 7695	57	105417	55.	5.6012	63.	4-5321	1-10-
46'	0.7653	3.3	::•387 I	35	0.4000	<b>43</b>	2.5271	1 11
44	9.7376	11	205131	54	0.5950	47	0.5246	1.12
<b>=</b> D	0.7292	12	204347	żż	0.5911	75	2.5203	1 13
53	C.7CS3	22 .	244678	44	0.5951-	55		1 5
37	0.6960	57	0.4533	41	2046.1	7.3	7.5127	15
47								
	(10636)	13	79 2279	34	0.5586	25	2.5169	1.5
21	0.5954	45	0.6466	3.7	0.545P	51	0.5139	1 27
54	C.5946	62	0.4375	5.3	(.5459	7.2	2.51.39_	18-
ዓι	2.5975	54	306356	14	0.5457	1 '2	0.5125	19
52	0.6375	C	2 • 4 330	16	0.5435	73	0.5033	20
дó	0.6875	20	0.6224	4 =	2.5413	57	0.5083	1 21
14	0.6534	14	0-4242 1	41.	0.5205	- 31	C.5C51_	122_
ī t	0.5750	15	1.04177	47	2.5167	2.3	3.5068	23
10	r. 6776	83	7.4147	1.2	6.5112	2.3	0.4001	24
13	0.6621	30	6.3956	5.	4.5105	45	0.4072	25
34	0.6539	21	6.3760		0.5105	62	2.4963	26.
41				31				
	0.5535	16	i e 3750	1 4	0.5075	27	0.4945	27
35	0.650	4.5	0.3501	1.7	0.5004	35	3.4911	88
1.1	0.6478	50	0.47622	13	L.5103	15	0.4534	20
Û	0.5421	81	. 0.357.1	21	û.brc2	12	J.48L3.	130_
3,	0.6357	8.0	167472	50	r.4942	57	200861	31
2 ^	0.5341	82	( 7472	58	6.6833	7:	7.4421	1 72
7.3	0.6259	3.5	0 0 2 7 2 3	Ç	0.4803	11	3.4202	1 33
75	0.5250	59	25.5.3	36	0.4671	32		- 3A-
94	4.5250	31	0.2125	10	5.4427	53	9.4735	35
		74						
95	0.5250		0.3155	42	0.4250	20	0.4725	36
45	0.6235	44	0.3135	56	1.4167	1.5	0.4706	37
40	0.6131	52	0.2317	37	6.3053	5.5		J38.
5 >	0•៦០១ភូ	νú	63517	62	0.3775	23	7.4508	39
12	0.4057	61	242917	57	0.3333	61	0.4583	40
52	0.5595	79	0.2417	74	(.3222	56	7.4569	41
31.	- 0.5417	83	002217	75	0.3000	14	0.4480-	42.
74	0.5417	76	0.2535	87	0.3300	34	0.4459	43
42	C.5104	71	6.2500	9.8	0.2917	85	0.4444	44
75	0.4861	73	0.2503	51	0.2083	82	0.6444	45
								45
32.	C.45.23	77	0.2500	57.	0.2023 l	- 15 -	0-4366-	
60	0.4340	64	0.2530	7 0	0.2083	10	0.4338	47
51	0.4167	85	0.5200	72	6.5082	Ú	0.4327	4.9
59	0.4157	A5	902476	78	6.20 a3	60	3.3677	40
7 C	0.4167	. 79	0.2033	P. J	C. 2CB3	. 76 -	2- 3972	150-
55	0.3750	87	3.2733	€3	5.2C P3	73	0.3055	51
81	0.3500	34	1.1771	85	0.2083	94	2.3958	i 52
57		43	301557	71	0.1250	85	0.3958	53
	C+3333							
61	. 0.3270	51	0.1557	76	0.1250	59	0 - 3373 -	54-
56	9.2917	75	(01657	77	0.1250	5.2	3 • 3 3 3 3	55
52	0.2083	96	0.1557	73	9.1146	71	5.2194	55
53	C-1657	72	0.1250	54	0.1146	77	0.3104	57
7?	C.0833	75	0.1125	2 "	0.1146	4.0	- 2,3032 -	1 58

MEANS .609 .381 .439 .483

### APPENDIX XII

- <u>41</u> -503	MILARY	•	L E V	LL OF 55%	TENCE RA	TES	
		27122	THEFT	7913	THEFT	מאסר	なマイズ
43	T07237[7]	7777		1 '-	TREETER	41 717	ŢŢ
	0.7337	62	5 . 5 7 5 3	30	0.7222	12, 0.7946	2
53	<b>₹.51</b> 28	-51	205634	1 1 1	6.7186	11 0-7532	3
73	0.6016	マウ	9.5594	4.2	0.6670	59 0.7232	ļa
84	0.4516	74	0.5522	1 15	0.6579	14 0.7125	5
85	0.0016	59	5.5456	1 13	0.5498	15 0.5861 .	1 _ 5_
6.5	0.5413	56	0.5/37	1 12	0.6410	34 0.4642	7
35	0.5701	54	0.5418	P.E	0.6360	30 0.4022	1 9
55	0.5233	79	9.5417	46	0.6154	15 205787	9
50	0.5238	87	0.5417	34	0.6047	75. 0.9535	10.
90	0.5154	50	0.5207	31	0.5704	44 0.5486	11
8.2	0.5154	57	2.5333	50	0.5694	22 0.5237	liż
54	0.5149	55	0.5235	82	0.5594	55 0.5208	13
56	0.5090	98	0.5231	62	. 0.5542	21 0.5194	1.14
45	C.5044	35	7.5114	22	0.5503	54 0.5636	15
74	0.5003	44	0.5353	32	0.5392	46 0.5035	16
46	0.5078	63	1.4977	46	0.5286	74 0.5000	17
75		80	0.4392				1i 8 .
	0.5053			35	0.5267	40 0.4935.	10 -
72	0.5034	82	0.4832	50	0.5258	22 0.4772	19
57	0.5012	34	0.4920	55	r • 5222	33 0.4667	20
3.4	0.4535	40	0 - 4731	SC	0.5163	13 0.4603	21
8.6	0.4963	11	C-4776	33	0.5163	45 , 0.4583	22
3.2	0.3940	22	0 - 4751	75	0-5155	0 0.4535	23
9)	በ•ሩክላድ [	12	10.4757	5.3	0.5993	52 0.4500	24
76	0.4740	75	0.4771	4 1	0.5054	63 0.4305	5.2
11	9 4712	15	0 = 4705	51	0.5000	42 0 • 4167	26
1 4	0.4710	7)	0 - 4657	7 (	0.000	50 0.4167	27
51	0.47)	77	2.4657	1 73	0.5000	35 0.4167	2.5
ፖሮ	0.4708	47	20422	4.3	0.5000	1 72 0.4550	1 23
53	0.4503	41	0.4506	1 85	0.5000	1 43 0.3750	30
1.2	( 64 95	31	0.4595	14	6.4853	62 0.7708	1 31
62	0 = 4693	73	0.4593	- 4	0.4869	75 0.3690	32
2.2	0.4632	9.4	0.4383	1 47	0.4750	47 0.3676	3.7
40	0.4603	65	0.4533	i ac	0-4764	52 . 0.3676	1 34
16	0.4635	äõ	C - 4 556	5 8	0.4667	31 0.7472	1 25
31	0.4607	46	0.4559	44	0.4549	80 0.3417	35
15	0.4545	45	0.4535	1 10	6.4520	82 0.3417	1 37
52	0.4571	55	0.4515	21'	0.4387	62 0.2824	1 33
50	0.4569	52	0.4574	42	0.4305	55 0.2778	1 33
20	0.4533	21	0.44-1	1 7	0.4189	51 0.2709	40
33		10	0.4408	86	0.3750	57 0.2500	41
	0.4258	C					42
47	0.4504		0.4405	71	0.3542	71 0.2500	
21	0.4421	33	0 - 4355	77	0.3542	77 0.2500	43
_ 0	0.4395	16	0.4375	57	0.3333	81 0.2500	44
5.8	C+4301	32	0 • 4333	74	0.3264	16 0.2202	4.5
10	2.4174	76	.D.4305.	45	0.3255	530 • 2222	46
30	0.4164	30	0.4152	43	0.2917	73 0.2083	47
13	0.4067	14	0.4143	76	0.2500	84 0.2083	4.9
88	0.3820	13	0.3964	5.6	0 - 21 88	85 0.2083	4.9
42	(.3659.	96	0.3750_	_52	. C.2083.	792.200.	1.50.
44	0.3300	53	C.3536	72	0.1975	67 0.2502	51
61	0.3247	42	0.7571	59	G. 1667	76 0-1667	52
71	0.2853	60	0.3494	7.9	0.1667	88 0.1667	53
77	0.2853	78	0.3194.	1	0.1667.	750.1500	54
79	0.2708	83	2.3174	70	C+1500	750.1500	55
87	0.2708	41	0.3150	F7	0.1500	32 0.1250	1 55
78	0.2500	43	0.1933	F 1	0.1250	51 1.0075	1 57
83 .	0.2500	81	0.1557	81	0.0833	70 2.0275	1_59
EANS	.467		458		.449		

APPENDIX XIII

MEASURES OF ASSOCIATION -- SANCTION LEVELS AND MURDER

California 1969/1971

	Multiple R	Multiple R <sup>2</sup>	R <sup>2</sup> Change	Simple r	r²	Do to
Police	.1948	.04	l.	\$170		<u>Beta</u>
December 1		•04	.04	19	.04	1920
Pre-Trial	.1991	.04	.00	08	.00	0.2 = 2
Conviction	.2221	0.5		• 00	.00	0373
	• 2221	.05	.00	.09	.00	.0895
Sentence	.2226	.05	.00	.00	.00	.0184
		N=58				
		}				

APPENDIX XIV

MEASURES OF ASSOCIATION--SANCTION LEVELS AND MANSLAUGHTER

California 1969-1971

		Multiple R	Multiple R <sup>2</sup>	R² Change	Simple r	r <sup>2</sup>	Beta
	Police	.3103	.09	.09	31	.09	3175
<u>س</u> نن	Pre-Trial	.3173	.10	.00	.12	.02	.0588
	Conviction	.3176	.10	.00	.04	.03.	0074
	Sentence	.3194	.10	.00	06	.00	.0444

APPENDIX XV

MEASURES OF ASSOCIATION--SANCTION LEVELS AND ROBBERY

California 1969-1971

•	R R	R <sup>2</sup>	R <sup>2</sup> Change	Simple <u>r</u>	r <sup>2</sup>	Beta
Police	.3377	.09	.09	31	.09	2896
Pre-Trial	.3874	.15	.06	.16	.03	.0818
Conviction	. 4565	.20	.06	.36	.12	.3161
Sentence	4568	.21	.00	. 25	.06	.0324

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APPENDIX XVI

MEASURES OF ASSOCIATION--SANCTION LEVELS AND ASSAULT

California 1969-1971

		Multiple R	Multiple R <sup>2</sup>	R" Change	Simple <u>r</u>	r²	Beta
	Police	. 5574	.30	.31	56	.31	5114
	Pre-Trial	.5768	.33	.02	31	.09	1327
C3	Conviction	.5797	, <b>33</b>	.00	.15	.02	.0477
	Sentence	.6087	.37	.03	20	.04	1866

APPENDIX XVII

MEASURES OF ASSOCIATION--SANCTION LEVELS AND BURGLARY

California 1969-1971

	Multiple R	Multiple R <sup>2</sup>	R² <u>Change</u>	Simple r	r²	Beta
Police	.2284	.05	.05	23	.05	1784
Pre-Trial	.3245	.11	.05	28	.08	2349
Conviction	.3270	.11	.00	.03	.00	.0457
Sentence	.3270	.11	.00	08	.00	0092

MEASURES OF ASSOCIATION--SANCTION LEVELS AND GRAND THEFT
California 1969-1971

		Multiple R	Multiple R <sup>2</sup>	R <sup>2</sup> Change	Simple r	<u>r²</u>	<u>Beta</u>
22	Police	.2790	.07	.07	30	.09	-2443
	Pre-Trial	2923	.08	.00	08	.00	1477
	Conviction	.4296	.18	.09	.37	.14	.1348
	Sentence	.5161	.27	.08	. 39	.15	.3448

APPENDIX XIX

MEASURES OF ASSOCIATION--SANCTION LEVELS AND AUTO THEFT

California 1969-1971

	Multiple R	Multiple R <sup>2</sup>	R² Change	Simple <u>r</u>	r²	Beta
Police	.3987	.15	.15	40	.16	3263
Pre-Trial	.3997	.15	.00	16	.03	0526
Conviction	.4709	.22	.06	.32	.10	.1784
Sentence	.4775	.22	.00	. 28	.07	.1101

APPENDIX XX

MEASURES OF ASSOCIATION--SANCTION LEVELS AND RAPE

California 1969-1971

	R R	R <sup>2</sup>	Change	r	r <sup>2</sup>	Beta
Police	.3967	.16	.16	40	.16	3391
Pre-Trial	.5177	.27	.11	.15	.02	.0866
Conviction	.5352	.29	.02	. 44	.19	.2026
Sentence	.5524	.30	.01	.37	.14	.1849

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