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CRIMINOLOGY

PAROLE BOARD DECISION MAKING: A STUDY OF DISPARITY REDUCTION AND THE IMPACT OF INSTITUTIONAL BEHAVIOR

MICHAEL R. GOTTFREDSON

INTRODUCTION

Few aspects of criminal justice are currently undergoing more critical appraisal than the incarceration process.¹ Nearly every survey of the field undertaken in the last five years recommends major reform of current methods for determining which convicted persons to imprison and what length of confinement should be imposed. Most recommendations for reform recognize the interdependence of the parole and sentencing decisions. Consequently, proposals for reform typically affect both decisions. Nonetheless, much of the concern surrounding the incarceration process centers on the concept of parole and its contemporary correlate, the indeterminate term. Although there is a growing consensus about the necessity of either abolition or substantial modification of the parole function, there is no consistency in the basis for believing that such reform is required. In fact, proponents of change cannot agree on even the most fundamental effects of the parole process. We are told, for example, that on the one hand, parole leads to decreases in terms of confinement² and, on the other, to increases in time served.³ A lack of rigorous research in the area encourages such antithetical claims.

One issue that permeates the sentencing-parole field is concern for disparity—dissimilar treatment of equally situated offenders. Numerous reform proposals concentrate on disparity, including suggestions for sentencing councils and appellate review of sentences as well as legislatively fixed mandatory terms and the abolition of parole.⁴ To many, the indeterminate term itself accounts for the

existence of great disparity in incarceration time.⁵ The lack of adequate guidelines for the type of information to be considered by the judge in making a disposition, judicial variation in punishment philosophies, and wide discretion in setting the term of confinement are often seen as culminating in gross sentencing disparities.

Under many sentencing structures once the decision to incarcerate has been made the determination of length of confinement is shared between the judiciary and the paroling authority.⁶ Within such a structure, the sentencing judge sets the outside boundaries of incarceration time, either by specifying a maximum term, a minimum term or both. Often, the parole board then determines, within these confines, the actual time served in prison. Thus, disparity in the *time actually served* in prison, for those jurisdictions that employ such sentencing-parole structures, is an issue that is relevant to both decision points.

Although reduction of disparity is not one of the stated goals of most parole systems⁷, it has been argued by some that parole boards do serve to reduce judicially created disparity through the exercise of their discretion in determining the length of confinement. Recent efforts to change the sen-

⁵ Sentence disparity can, of course, take a variety of forms, including decisions not to prosecute, the incarceration or probation decision, and the decision as to length of confinement. It is only the decision as to length of incarceration that will be of concern here because parole boards, generally, have only had *direct* influence over this decision.

⁶ See V. O'LEARY & K. HANRAHAN, *THE ORGANIZATION OF PAROLE SYSTEMS IN THE UNITED STATES* (3d ed. 1976), for a comprehensive review of paroling policies and practices in the various American jurisdictions. The legislature also plays a significant role by virtue of statutory restrictions.

⁷ On the contrary, recidivism, depreciating the seriousness of the offense and rehabilitation, have been the principal statutory concerns. See, e.g., ILL. REV. STAT. ch. 38, § 1003-3-5 (c) (1975).

¹ See D. FOGEL, "... WE ARE THE LIVING PROOF" (1975); N. MORRIS, *THE FUTURE OF IMPRISONMENT* (1974); A. VON HIRSCH, *DOING JUSTICE* (1976).

² E. VAN DEN HAAG, *PUNISHING CRIMINALS*, 6 (1975).

³ Cohen, *Abolish Parole: Why Not?* 46 N.Y. St. B. J., 51 (1974).

⁴ See also the proposal to reform the Federal sentencing structure in S.1437, 95th Cong., 1st Sess. (1977).

tencing-parole process grant increased importance to ascertaining the validity of such claims about latent functions of the parole process. According to the National Advisory Commission on Criminal Justice Standards and Goals:

Though it is seldom stated openly, parole boards often are concerned with supporting a system of appropriate and equitable sanctions. This concern is reflected in several ways, depending upon a jurisdiction's sentencing system. One of the most common is through decisions seeking to equalize penalties for offenders who have similar backgrounds and have committed the same offense but who have received different sentences.⁸

Similarly, the United States Board of Parole reports that "to a very real degree, the Board of Parole tends, in practice, to equalize [sentencing] disparity whenever it is not bound to the one-third maximum time required in 'regular sentencing.'"⁹ But the claim that parole boards do serve a sentence disparity-reduction function still is questioned. After studying parole practices in New York State, one commission has concluded that there is "no hard evidence" that the parole board "reduces sentence disparities by paroling those whose offenses are similar after they have served comparable amounts of time."¹⁰

Arguments that parole boards do in fact reduce unwarranted variation in sentences are often based on the notion that when one central body makes decisions in every case, it tends naturally to make more homogeneous decisions than would numerous de-centralized decision-makers.¹¹ Conversely, the idea that parole boards reduce time-served disparity is often questioned. This is due to the lack of reliable empirical evidence showing such a reduction, and a belief that parole boards make time-served decisions in an arbitrary fashion in an attempt to achieve ends like rehabilitation that are beyond current capabilities. There does exist some empirical evidence suggesting that state parole boards may modify disparities arising from plea negotiations,¹² but the question of whether and to

what extent parole boards reduce judicial incarceration-time disparity is unknown.

A corollary issue with considerable significance in light of contemporary sentencing—parole reform proposals is the extent to which post-sentencing factors influence time-served decisions by parole boards. A major historical argument for the large grant of discretion given paroling authorities to determine the length of incarceration, was to provide an opportunity to observe the inmate's behavior while in prison. In theory, evidence of prison adjustment, as indicated by compliance with institutional regulations and lack of disciplinary actions, and participation in appropriate treatment programs, would permit the parole board better to gauge the inmate's prognosis for successful release from prison. The question of the extent to which institutional behavior factors influence time-served decisions is of considerable import. If factors unknown at the time of sentencing are critical in determining actual time served for a large proportion of inmates, it is obviously important to determine the validity of these factors in assessing post-release success. If post-sentencing factors are not important in time-served decisions, then the practice of providing paroling authorities such wide discretion in time-served decisions is questionable.¹³ One purpose of this study, therefore, will be an assessment of the extent to which selected post-sentencing factors are important in determinations by parole boards of time actually served in prison.

Problems in Disparity Research

The empirical evidence concerning disparity-reduction on the part of parole boards is sparse and the topic is fraught with difficult analytic and measurement issues. Numerous theoretical and empirical complications attend any disparity research, perhaps partially accounting for the lack of evidence on the effect on disparity of decisions made

⁸ NATIONAL ADVISORY COMMISSION ON CRIMINAL JUSTICE STANDARDS AND GOALS, CORRECTIONS 394 (1973).

⁹ UNITED STATES BOARD OF PAROLE, ANNUAL REPORT (1975).

¹⁰ Citizen's Inquiry on Parole and Criminal Justice (1976). *Report on New York Parole: A Summary*, 11 CRIM. L. BULL. at 297.

¹¹ Of course, not all paroling authorities are entirely centralized. They do, however, consist of a small number of decision makers (in comparison to judges).

¹² J. SHIN, ANALYSIS OF CHARGE REDUCTION AND ITS OUTCOMES, (1972).

¹³ Keeping control within the institution is an additional rationale for sentencing-parole structures that permit parole boards to consider institutional behavior in time-served decisions (see, e.g., N. MORRIS, *supra* note 1). Regardless of the rationale invoked for the use of institutional behavior factors in time-served decisions, one important question—and the sole concern of the research reported here—is the extent to which such factors actually influence time-served decisions. It should be stressed that if it is found that such factors do, in fact, exert a significant influence on time-served decisions, the validity of their use, for either institutional control or for prognosis regarding post-release success, is a separate issue.

at various points in the criminal justice system. One of the principal impediments to research in the area is the absence of an agreed upon definition of disparity. For example, it might be argued that disparity can only be measured against the specific goals of the sentencing decision. Thus, the factors that legitimately should be considered in arriving at a disposition when general deterrence is conceived of as the goal of the sentencing decision may differ from the factors legitimately relevant if retribution is the sole concern. To the extent that different decision-makers employ different goals upon which to base their judgments, it might be argued that rather than reflecting disparity, differences in dispositions simply reflect differences in the goals of persons making those decisions.

A second impediment to disparity research is the difficulty inherent in operationalizing important concepts. For instance, equity in sentencing might require that offenders with similar offenses and prior records be afforded similar treatment. The measurement difficulty, of course, is how to operationalize these concepts. Categories of conviction offense are most often extremely heterogeneous in the offense behavior that they encompass. Thus, when conviction offense is "held constant" in disparity research, there may still be much uncontrolled variance within categories. Similar problems of scaling and measurement are associated with prior record variables.

Additional complications arise when the aim is to examine the influence of several decisions on disparity. For example, design constraints impede research in the area of disparity reduction by parole boards. Optimally, what is required for an empirical assessment of this problem is an experimental design including random allocation to groups with and without subsequent parole board review as to length of incarceration.

Further complicating the problem for researchers is the lack of comparable data available to both the sentencing judge and the paroling authorities for the same offenders. Thus, a special data collection effort is required for a study of the problem. Finally, major complications in the empirical study of disparity reduction are introduced by the myriad legal restrictions imposed on both the judiciary and the paroling authorities that can make simple comparisons extremely misleading.

The centrality of the disparity issue to the contemporary call for fundamental reform in the sentencing-parole process lends increased importance to attempts to resolve these impediments to empirical study of claims about the latent functions of

parole. A more solid empirical basis for discussion than that currently available is thus required. The major purpose of this paper is to begin an exploration of whether and to what extent one parole board has reduced time-served disparity arising from the dispositions from several courts. Unlike much prior research on the topic of sentencing disparity, emphasis will be placed on the interdependence of the sentencing and parole decision-makers and the effect that multiple decisions have on incarceration disparity.

THE STUDY

The Sample and the Data

To explore the questions of whether and to what extent parole boards reduce judicial disparity in incarceration length and to consider the influence of institutional behavior on time-served decisions, a sample of adult parole cases was obtained from the United States Board of Parole. This sample, which was drawn in conjunction with a larger study,¹⁴ consists of random samples of releases by the Board of Parole in 1970, 1971 and 1972. Because of substantial differences in statutory limitations on maximum and minimum allowable sentences between juvenile and adult cases, only adult cases are studied here. Additionally, persons sentenced under specialized statutes, such as the 1966 Narcotic Addict Rehabilitation Act¹⁵ were excluded from this sample.¹⁶ Finally, only new court

¹⁴ The data used in this study were collected as part of a parole decision-making project directed by Don M. Gottfredson and Leslie T. Wilkins in collaboration with the United States Board of Parole. Their permission to use the data is greatly appreciated. The coding procedures and definitions of terms are reported in D. Gottfredson & S. Singer, *Parole Decision-Making Coding Manual, Supplemental Report Two*, (Research Center, National Council on Crime and Delinquency, Davis, California, 1973). The proportion of cases drawn by year are as follows: For 1970, 50 % of the cases between January and June and 20 % of the cases between July and December were randomly selected resulting in 2,497 cases; for 1971, 30 % of the cases between July and December were randomly selected resulting in 1,138 cases; for 1972, 30 % of the cases between January and June were randomly selected resulting in 1,011 cases. The sample was drawn prior to the adoption by the Parole Board of the guideline system (see Gottfredson, Hoffman, Sigler & Wilkins, *Making Paroling Policy Explicit*, 21 *CRIME AND DELINQUENCY* 34 (1975)), and, therefore, the results of this study may have greater applicability to other jurisdictions that have not established similar discretion structuring mechanisms.

¹⁵ 18 U.S.C. § § 4251-54 (1976).

¹⁶ Persons receiving "regular adult" sentences under 18 U.S.C. § 4205 (1976) comprised 75 % of the sample. Of those excluded, Youth Corrections Act cases comprised the vast majority (18 % of the total sample).

commitments (*i.e.*, not parole or probation violators) were included in the sample.

The federal sentencing structure allows the judge to select among several types of incarceration dispositions for adults.¹⁷ In this sample, the most commonly used alternative (sixty-five percent of the cases) is the "regular adult" sentence, in which the inmate becomes eligible for parole after serving one-third of the full sentence.¹⁸ The full sentence is selected by the judge within statutory confines. Alternatively, the judge may sentence under a section that allows the judge to set the maximum term within statutory confines and to set the date of eligibility for parole at some time earlier than one-third of the maximum.¹⁹ This option accounts for two percent of the cases in the sample. Additionally, an offender may be sentenced under a section that permits the judge to set the maximum term and the parole board to set the earliest parole eligibility date.²⁰ This option accounted for thirty-two percent of the cases in the sample. Persons sentenced under these options and who were either paroled, mandatorily released or released by virtue of the expiration of their sentence as of 1973, were defined as the study group for the research. Thus, not only is the judicially set sentence length known for each inmate, but the actual time served as determined by the parole board is known as well. The final study sample consists of 2,833 persons. For each person in the sample, a wide variety of personal characteristics, prior record information, current offense information, and prison experience variables were collected. The reliability of the individual items in the data set was found to be acceptably high with reliability coefficients for most items well above 0.8.²¹

These data are suited for exploring the issue of parole board disparity reduction for several reasons. Both sentencing data from numerous Federal Districts and decision-makers and time-served data are known for each case. Thus, the two types of decisions relevant to the question—judicial determination of sentence length and parole board determination of time served—can be studied for each person in the sample. Also, this data set

contains a wealth of factors that may influence both judicial and parole decisions as to incarceration time—from several indicators of prior record and offense type to prison behavior items²²—an essential requirement if adequate controls on factors influencing sentence are to be exercised in defining disparity. Additionally, the sentencing-parole structure in existence in the Federal system at the time these data were collected is similar to that found in many jurisdictions, although the types of offense may be dissimilar. Finally, the number of cases available is sufficiently large to permit multivariate analyses of the problem. The question of the influence of institutional behavior factors on time-served decisions is also capable of study, as an effort was made to collect such items that are presented to the parole board for their consideration. Thus, both time-served and some indicants of institutional behavior are known for each person in the sample.

It should be stressed that the data studied here were collected prior to the implementation by the United States Parole Commission of new guidelines²³ and that, therefore, these results should not be viewed as reflective of the current practices of that board. The current practices of the United States Parole Commission depart significantly from the practices during the period of time reflected in these data in ways that could exert a considerable influence on the disparity question. Although these findings will not be indicative of disparity reduction in the current Federal System, the operation of the Federal Parole Commission at the time these

²² The following is a list of offense and prior record items used in the study. Precise definitions of terms and coding instructions may be found in D. Gottfredson & S. Singer, *supra* note 14.

1. Type of Sentence—simple, consecutive, concurrent
2. Conviction offense—26 categories
3. Weapon in offense (and type)
4. Weapon with injury
5. Any indication of assault (regardless of conviction category)
6. Seriousness score (see Footnote 32)
7. Dollar value of loss
8. Type of crime on first arrest
9. Age at first arrest
10. Age at first conviction
11. Longest time free since first commitment
12. Longest time served on any commitment
13. Prior prison commitments
14. Other prior sentences
15. Prior probation sentences
16. Number of prior incarcerations (including jail)
17. Probation or parole revocations
18. Prior convictions (number and type)

²³ See note 14, *supra*.

¹⁷ See *Project, Parole Release Decisionmaking and the Sentencing Process*, 84 YALE L. J. 810 (1975), for a description of Federal sentencing practices.

¹⁸ 18 U.S.C. § 4205 (a) (1976).

¹⁹ *Id.* at § 4205 (b) (1) (1976).

²⁰ *Id.* at § 4205 (b) (2) (1976).

²¹ See J. Beck, S. Singer, W. Brown, & G. Pasela, *The Reliability of Information in the Parole Decision-Making Study* (National Council on Crime and Delinquency 1973).

data were collected was similar to the current operation of most parole boards.

Method of Assessing the Disparity Reduction Hypothesis

As usually understood, disparity means that equally situated persons are treated differently at some stage of the criminal justice process. At the decision point of interest here, disparity means that equally situated offenders are sentenced to different lengths of incarceration. There are numerous potential sources for such disparity. It may arise from inconsistency due to individual judges over time, from inconsistency among different judges within a district, from inconsistency among judges in different districts, or from all three. There are two components of the concept of disparity that require operational definitions for the purpose of this study: One considers what is meant by inconsistent or different treatment; and the other questions what is meant by "equally situated offenders". The first component will simply be indicated by variation in the *maximum* sentence length (for judicial decisions) and in time actually served in prison before first release (for parole board decisions). When "equally situated offenders" receive equal maximum sentence lengths in months, there is no judicial disparity as measured here²⁴ and when "equally situated offenders" serve equal amounts of time in prison there is no parole board disparity as the term is used here.

The second component of disparity—what is meant by "equally situated offenders"—is, as noted above, much more difficult to operationalize in a satisfactory fashion. There are obviously numerous factors that may be considered by both judges and parole board members in setting length of confinement. Depending on the goal of incarceration that is being pursued by the decision-maker (*i.e.*, general deterrence, incapacitation, retribution, or treatment) the offender's prior record, the seriousness of the conviction offense, the offender's family situation, and the prognosis for recidivism are but a few of the factors that may influence the disposition and, hence, be applicable in defining "equally situated offenders." As noted above, the numerous potential aims of incarceration, with their concomitant differences in "legitimate" sentencing criteria, have led some to argue that disparity cannot be measured and, therefore, cannot be studied empirically.

²⁴ The maximum sentence length was chosen as the most appropriate indicant of judicial disposition since under most sentencing alternatives it defines the range of feasible incarceration time.

It is unsatisfactory to argue, however, that because two judges differ in the *goals* that they employ in fixing sentence, disparity cannot be measured. The point of reference for disparity should be the dispositions given to two or more equally situated offenders. If they receive different dispositions—regardless of differences in *purpose* for these dispositions—they have been treated differently. If two judges have identical cases and one, operating so as to maximize deterrent goals, incarcerates for two years and the other, operating so as to maximize rehabilitative goals, incarcerates for five years, even though these separate terms may be legitimately related to the goal of the decision, a disparate result, from the point of view of the offenders at least, has been achieved.²⁵

Although there is considerable disagreement over which factors should *not* be considered in sentencing decisions, there is a good deal of consensus that the characteristics of the offense and the prior criminal record of the offender should be influential.²⁶ That is, although scholars differ somewhat in the extent to which other factors are seen as permissible in setting punishment, there is a growing body of sentencing literature that suggests that the seriousness of what the offender has done and the extent and nature of the offender's prior criminal conduct should determine the sanction received. There is considerable rationale, therefore, for operationalizing the concept of "equally situated offenders" in terms of these factors. The concept, "equally situated offenders" was thus operationally defined for the purpose of this study as persons with similar current offense and prior record statuses. The data used are relatively rich in the amount of information concerning the prior criminal history of the offender and the factors making up the current offense.²⁷

Two phases of the research were designed to address the disparity reduction hypothesis. First, multiple linear regression was used to assess the

²⁵ Some scholars argue for the propriety of this form of sentencing disparity (see, e.g., N. MORRIS, *supra* note 1.) The purpose of this research is to attempt to determine whether parole boards reduce judicial incarceration disparity, *regardless of the source* (or propriety) of such disparity.

²⁶ See e.g., note 1 *supra*.

²⁷ See note 22 *supra*. One limitation of this method is that it is certainly possible that there exist important current offense or prior record dimensions that are not reflected in the items available for study and which would be useful in defining equally situated offenders. It is argued, however, that the major factors thought to be relevant in making such assessments are included.

amount of variation explained by the same set of offense and prior record variables for both the sentence-length and time-served decisions. The relative amount of unexplained variation serves as a rough indicator of disparity after the offense and prior record variables are taken into account.²⁸ Thus, a reduction in unexplained variation would be expected if the paroling authority was markedly reducing disparity in respect to similar circumstances of offense and prior record. Second, because the method of regression analysis used is limited in the extent to which significant subgroup differences that might exist are uncovered, a search for such subgroups was undertaken by means of tabular analysis, comparing disparity directly for specific groups of offenders with similar offenses and prior record.

Results

Table 1 summarizes the sentence length and time-served data for the cases in the study. Whereas the standard deviation for sentence length is over twice as great as the standard deviation for time-served, the coefficient of variation for time-served is thirteen percent smaller than for sentence length.²⁹ The similarity between the two decisions on this statistic indicates that the relative variability of the two decisions is fairly similar; rather than sharply reducing the variability in sentence lengths, the time-served (*i.e.*, parole board) decision apparently moves the individual cases down the scale of months served, thus affecting the variance of the two samples, but much less substantially affecting the *relative* variability about the mean.³⁰ These data indicate that, on the average, these inmates served about fifty-two percent of their maximum sentences. The bivariate correlation coefficient between sentence length and time-served is quite high ($r = +.85$).

The findings that there is no large difference in the relative variability in time-served and sentence length and that sentence length and time-served are highly correlated casts some doubt on the hypothesis that parole board decisions substantially reduce sentence-length disparity. However, it could still be possible that a greater proportion of

the variation in time-served decisions is accounted for by offense and prior record items than is the variation in sentence length. Under the operational definitions set forth for this study, if this were the case, then regardless of the relative variability between the two decision points, time-served decisions would be less disparate. In order to address this question, both time-served in prison and sentence-length were regressed on the same set of offense and prior record variables. The large number of offense and prior record items available for analysis required that as a first step the number of independent variables be reduced. Thus, items with a significant bivariate association with either sentence-length or time-served were allowed to remain in the analysis. Under the operational definitions set forth here, if the parole board did reduce judicial disparity, then a greater proportion of the variance in time-served than in sentence length will be explained by these offense and prior record variables. If similar proportions of explained variance between the two decisions is found, or if less of the variance in time-served is accounted for relative to sentence-length, then this will be construed as evidence against the disparity reduction hypothesis.³¹

The step-wise regression results for both sentence-length and time-served are presented in Table 2. For sentence-length, a total of six variables entered the equation in the step-wise analysis before additional variables added less than one percent to the explained variation (prior violent record and current violent offense, current conviction on assault, the seriousness of the charged offense, the number of counts on the current commitment, prior prison sentences, and the seriousness of the conviction offense).³² These items accounted for

³¹ It should be stressed that the present study is not attempting to discover the specific factors most influential in determining sentence-length and time-served. Rather the criteria set for this analysis are the total amounts of variation explained in these decision outcomes by offense and prior record items. Obviously, some of these independent variables are highly interrelated. In addition to the items shown in note 22, *supra*, a limited search was undertaken to discover joint effects that would add additional explanatory power to the set of independent variables. Variables consisting of various combinations of present offense type and prior record experience, weapon use and prior record experience, and so forth were also constructed. These were added as additional variables. Thus, for example, attributes were constructed that placed persons with both a violent prior record and a current violent offense in one category and all others in another.

³² The seriousness score values were defined by an unpublished study by D.M. Gottfredson for offense be-

²⁸ See note 31 *infra*.

²⁹ The coefficient of variation standardizes the sample standard deviation to the sample mean. It is, therefore, useful in comparisons of relative homogeneity when groups have very different means.

³⁰ Variances computed on logarithmic transformations of sentence-length and time-served yielded comparable results: time-served = .46; sentence-length = .51.

TABLE 1
DESCRIPTIVE STATISTICS ON SENTENCE-LENGTH AND TIME-SERVED

	Number	Mean	Variance	Standard Deviation	Coefficient of Variation
Maximum Sentence-length (in months) ^a	2829	52.4	2373.6	44.7	.93
Time-served (in months)	2829	27.3	478.1	21.9	.80

^a Life sentences were coded as 540 months, because it was necessary to establish an interval scale classification. Under Federal law the minimum parole eligibility for persons sentenced to life is 15 years and the typical minimum parole eligibility for regular adult sentences is one-third of the maximum sentence. Thus, three times 15 years is 540 months.

approximately forty percent of the variation in sentence-length.³³ Thus, for this sample of cases and using the offense and prior record variables available for study, only a moderate amount of variation in sentence-length is accounted for. There is, therefore, under the criteria established for this study, considerable room for disparity (the unexplained variance) to be reduced by the parole board.

Also shown in Table 2 are the results of an identical analysis using time-served as the dependent variable. Seven variables, six of which were identical to those entering the sentence-length solution, entered before additional variables added less than one percent to the explained variation. Of interest is the fact that the two solutions accounted for almost identical proportions of explained variation. In fact, slightly less of the variation in time-served is accounted for by offense and prior record variables. Thus, *under the criteria established for this*

study, time-served decisions are no less disparate than are sentence-length decisions in this sample.

The high correlation in this sample between time-served and sentence-length, when compared with the moderate associations between the offense and prior record variables and time-served, indicates that the best overall predictor of time-served is judicial sentence length. To some extent such a correlation is logically necessary; after all, the maximum and minimum amounts of time served in prison are constrained by where on the scale of punishment the judge sets the penalty. However, the large proportion of variation unexplained by offense and prior record found in this study for sentence-length left considerable room for disparity reduction, *as defined here*, on the part of the parole board. These results indicate, however, that for this sample the parole board decisions were highly consistent with the sentencing decision. Of course, it might be the case that other offense and prior record factors or their combinations not included in this data set could reduce the unexplained variation in sentence-length and thus reduce the apparent disparity found here.³⁴

havior categories developed by M. Warren and E. Reimer for use in a "Parole Movement Scale" in the Research Division of the California Department of Corrections. The scale values are the median scores obtained for each item in a decision game in which parole board members and correctional administrators were asked to indicate the probability of successful parole required for parole release after serving the average (median) time for the particular offense/behavior category. The score values range from 235 for bigamy to 887 for acts of deliberate, planned violence causing death of an adult. For the exact scale values and the rules used for coding offenses from case files, see D. Gottfredson & S. Singer, *supra* note 14. Clearly, this scale is only a *rough* measure of offense seriousness, defined by a restricted group of persons. It does, however, serve to classify offenses in terms of behavioral elements (*e.g.*, value of loss, degree of injury, extent of monetary loss, and presence of weapons) and may therefore be preferable to a simple hierarchy based on statutory classifications.

³³ A regression using the logarithm of sentence length as the dependent variable produced virtually identical results.

³⁴ As noted in the introduction, it has been claimed that the disparity reduction function of the Federal Parole Board is most effective in those situations in which the Board is not constrained by the mandatory one-third minimum sentence of the "Regular Adult" sentence option. This possibility was examined here by employing identical procedures reported above for the total sample, but only within those cases sentenced under 18 U.S.C. § 4205 (b) (2)—cases for which the parole sets the minimum parole eligibility date up to one-third of the maximum (approximately one-third of the sample). For these cases ($N=746$) time-served and sentence-length were less strongly correlated than for the total sample ($r = .68$); however, the results of the regression analysis were also not supportive of the disparity reduction hypotheses. Thus, 45 % of the variation in sentence-length was explained by three factors (current offense was robbery, simple versus consecutive sentences, and seriousness of the charged offense) before additional entrants explained

TABLE 2
MULTIPLE REGRESSION RESULTS ON SENTENCE-LENGTH AND TIME-SERVED, EMPLOYING OFFENSE AND PRIOR RECORD VARIABLES*

Sentence-Length		Time-Served					
Variable	Multiple R	Coefficient of Determination	Change in Coefficient of Determination	Variable	Multiple R	Coefficient of Determination	Change in Coefficient of Determination
Violent prior and violent current offense	.502	.252	.252	Seriousness of charged offense	.421	.177	.177
Current offense involves assault	.542	.294	.042	Longest time served on prior prison commitments	.492	.243	.066
Seriousness of charged offense	.581	.338	.044	Violent prior and violent current offense	.522	.273	.030
Simple or consecutive sentences	.600	.360	.022	Simple or consecutive sentences	.547	.299	.026
Prior prison commitments	.611	.374	.013	Current offense involves assault	.566	.321	.022
Seriousness of conviction offense	.619	.383	.010	Prior prison commitments	.582	.339	.018
				Seriousness of current offense	.599	.359	.019

*List-wise deletion resulted in 375 missing cases. All inclusions significant at the $p < .05$ level ($N = 2,458$).

Although these results cast doubt on the hypotheses that time-served decisions serve a substantial disparity reduction function, it is possible that the type of analysis undertaken thus far masks important subgroup differences in the extent to which parole decisions reduce disparity in sentence-length decisions. That is, there may be some *specific* types of offenses for which parole boards do reduce the variation in sentence-length (and others for which they increase it). If such subgroups do exist, the method of analysis used so far would not so demonstrate. Therefore, a study was made, within the constraints posed by the size of the sample, to ascertain whether the reduction hypotheses is supportable when subcategories of equally situated offenders are viewed separately.

All cases in the sample were classified according to level of seriousness.³⁵ Categories with over 150 cases were selected for further study, resulting in the definition of seven seriousness categories. Each category was then further subdivided on the basis of type of sentence (simple versus concurrent and consecutive) and prior convictions (none versus at least one). Obviously, the number of cases available places limitations on the number of factors that can be controlled in this type of analysis. Categories that contained at least fifty cases after these controls were applied were then analyzed for evidence of disparity reduction. The resulting subgroups (shown in Table 3) can be described as cases homogeneous with respect to offense, seriousness, sentence type, and prior record. Admittedly, these controls are somewhat crude; however, they do serve to classify the sample into fairly homogeneous groups on the basis of items relevant to the disparity issue. The classifications shown in Table 3 account for forty-two percent of the parent sample.

Table 3 shows that for each of the classifications defined for analysis the mean sentence-length is considerably greater than the mean time-served. As noted earlier, this simply reflects the fact that most persons do not serve the maximum sentence given by the court and thus emphasizes the importance of studying issues like disparity across several

less than one percent of the variance. For time-served, 39 % of the variation was explained by six factors (current offense was a robbery, the longest time served on prior prison commitments, prior prison sentences, simple versus consecutive sentences, longest time free between prison commitments, and the seriousness of the charged offense).

³⁵ See note 32 *supra*. The classifications of seriousness used are those reported in D. Gottfredson & S. Singer, *supra* note 14.

TABLE 3
SENTENCE LENGTH AND TIME SERVED FOR SELECTED CLASSIFICATIONS

Classification	Sentence-Length (months)			Time-Served (months)		
	Mean	Standard Deviation	Coefficient of Variation	Mean	Standard Deviations	Coefficient of Variation
Forgery under \$500, simple sentence, at least one prior conviction (N = 167)	37.5	22.8	.61	20.6	10.8	.52
Car Theft (unplanned), simple sentence, at least one prior conviction (N = 217)	32.9	14.1	.43	21.2	9.9	.47
Forgery over \$500, simple sentence, at least one prior conviction (N = 89)	50.5	26.4	.52	26.8	15.1	.56
Theft (planned), simple sentence, at least one prior conviction (N = 291)	33.8	20.5	.61	17.8	11.4	.64
Car Theft (planned), simple sentence, at least one prior conviction (N = 284)	35.5	15.4	.43	21.1	9.4	.44
Selling narcotic for profit, simple sentence, at least one prior conviction (N = 54)	56.3	31.3	.56	31.5	18.8	.60
Selective service violation, simple sentence, at least one prior conviction (N = 136)	37.0	13.1	.35	16.8	3.6	.21

decision points. Of most relevance to the disparity-reduction hypothesis are the columns labeled "coefficient of variation". It can easily be seen that, overall, the differences in the coefficients of variation between sentence-length and time-served are not large; however, some subgroup differences do exist. In five of the seven comparisons there is virtually no difference in the two measures. In two groups, there is some evidence in favor of the reduction hypothesis. For cases involving forgery under \$500 with simple sentences and at least one prior conviction, the standard deviation for sentence length is sixty-one percent of the mean, whereas for the identical cases the standard deviation for time-served is fifty-two percent of the mean, a reduction of fifteen percent. For cases involving selective service violations with simple sentences and at least one prior conviction, the standard deviation for sentence length is thirty-five percent of the mean whereas for time-served the standard deviation is twenty-two percent of the mean, a reduction of thirty-seven percent.³⁶ Of interest is the finding that this latter classification,

³⁶ The coefficient of variation is dependent on the standard deviation which in turn may be highly influenced by a few extreme scores. In order to ensure against the possibility that a few extreme cases were responsible for the apparent reduction in variability for the two classes discussed above, an identical analysis was performed using only cases falling between the 10th and 90th percentiles on the sentence-length distribution. The results were similar to those reported in the text.

which demonstrates the greatest disparity reduction as defined here, was the group with the smallest standard deviation on sentence length. These data indicate, therefore, that some subgroup differences in the extent to which parole boards affect judicial disparity may exist, and that such reductions may vary in magnitude according to the particular offense under consideration.³⁷ These results also indicate that such reductions are not consistent for all categories of offenses.

The Influence of Institutional Behavior on Time-Served

These data clearly suggest that the major indicator of time-served in prison is judicial sentence length. Although there is considerable evidence that the parole board moves penalties down the scale of severity, indications are that this is done systematically with little reduction in variability

³⁷ The analyses reported in Table 3 were repeated for the subgroups shown regardless of type of sentence (*i.e.*, cases were included whether the sentence was simple, consecutive or concurrent). It might be thought that disparity arising from sentence type (*i.e.*, otherwise similarly situated offenders given different types of sentences) is reduced by the parole board. Disparity of this type is, of course, more difficult to operationalize. However, for the subgroups shown in Table 3 the results, in terms of differences between the coefficients of variation, are essentially the same. One exception are cases of planned theft with at least one prior conviction in which the coefficient variation for time-served is 11 % less than for sentence length.

for similarly situated offenders. The question therefore arises whether factors uniquely known to the parole board appreciably affect the parole board's decision of time-served. As noted earlier, the ability to witness institutional behavior prior to setting a release date has served as a major justification for such delayed penalty-setting sentencing structures.

Perhaps the institutional behavior of most concern—both to post-release prognosis and to the theory of parole release as a mechanism of institutional control—is rule infraction. Consistent inability to comply with prison regulations can be viewed as evidence of increased probability of future law violation, and the threat of a longer prison stay might be an effective deterrent to institutional rule infraction. Several rule infraction items that were available to the parole board for their decisions were available for this part of the study. First, the number of prison punishments on the current stay was coded, defined as any action (other than dismissal) on charges of violations of prison rules resulting in withholding of privileges, segregation, isolation, loss of good time, any suspended sentence, or other deprivation. Second, prison assaultive infractions were coded, defined as any assault or threat to assault, resulting in a disciplinary infraction during the present confinement, unless there was a finding of not guilty. Thus, while the first item gives an indication of the frequency of rule-breaking, the second item gives some indication of the seriousness of such infractions. Third, whether or not the inmate had a record of escape or attempted escape from prison during the present confinement was coded.³⁸

Institutional behavior items other than those relating to rule infractions, such as successful participation in treatment programs, are obviously of additional theoretical interest in a study of time-served decisions. Unfortunately, data relating to treatment participation were only partially available for this study and therefore were not included in the analysis. The emphasis on disciplinary issues, however, most notably in contemporary reform proposals,³⁹ suggests that there is considerable merit in ascertaining their influence in reality on time-served decisions. The bivariate correlations between the rule infraction items and time-served

in prison ($n = 2506$; each significant at the $p < .05$ level) were as follows: escape history, $r = .10$; assaultive infractions, $r = .14$; and prison punishment, $r = .24$.

The question posed for this portion of the study was whether institutional behavior had a significant impact on time-served for the persons in the sample once the judicial decision as to sentence length was taken into account. Essentially, the purpose was to discover the extent to which the parole board modified judicial decisions on the basis of knowledge about institutional infractions.

To address this issue, predicted scores for time-served were formed on the basis of the linear regression equation obtained by regressing time-served on sentence-length. From these predicted score values, residual scores were derived for each person in the sample. The total variation in these residual scores (which was twenty-eight percent of the total variation in time-served) was then treated as the dependent variable for a multiple linear regression that treated the institutional behavior items as independent variables. A step-wise solution was used with only items adding at least one percent of the variance in the residual scores permitted to enter. It should be stressed that the purpose of this analysis was not to determine which items, among those available for study, were most determinative of time-served. Rather, the purpose was to determine the proportion of variability remaining in time-served once the judicial decision as to sentence-length was taken into account that could be accounted for by these institutional behavior items. The results are presented in Table 4.

The two institutional behavior items entering the regression equation together account for less than ten percent of the *residual* variation in time-served. Thus, there is evidence that institutional behavior of inmates may influence the time served in prison, but that the influence is not large. It

TABLE 4
MULTIPLE LINEAR REGRESSION OF RESIDUAL VARIATION
ON INSTITUTIONAL BEHAVIOR ITEMS^a

Variable	Multiple R	Coefficient of Determination	Change in Coefficient of Determination
Number of prison punishments	.26	.068	.068
Escape history	.28	.080	.012

^a All inclusions significant at the $p < .05$ level; $N = 2,506$.

³⁸ There are limitations involved in using these items as indicators of prison rule infractions. Perhaps most important is the insensitivity of these items to the seriousness of the infractions, which is only partially overcome by the assault item. For this reason, the results of this phase of study should be viewed cautiously.

³⁹ See N. MORRIS, *supra* note 1.

might be that part of the reason that these items are not found to exert a greater influence on time-served decisions is their relative rarity in the sample. Only seventeen percent of the sample had any prison punishment, only three percent had assaultive infractions, and only two percent had an escape history during the current commitment. The fact that this sample represents federal inmates might limit the generalizability of these results to state systems where institutional infractions might be more frequent.

SUMMARY AND IMPLICATIONS

These results suggest that for the sample studied, the parole board substantially reduced the time actually served in prison from the maximum judicially set sentence length, but overall the relative reduction in variability in sentences for similarly situated offenders was not large. The extent of the reduction in variability for similarly situated offenders was found to vary somewhat according to the specific category of offense and prior record studied, suggesting that the disparity reduction function of parole boards may have a differential impact according to offense and offender characteristics. Larger sample sizes than those available here would be required for a more intensive study of the differential disparity reduction hypothesis. If differential effects were uncovered in future research, the current findings would suggest that they might vary in magnitude according to the specific offense under consideration.

The results of this study also suggest that parole boards do modify sentencing decisions on the basis of institutional behavior, but that these modifications account for a relatively small proportion of the sentence-modification variation. In jurisdictions where institutional misconduct is more frequent or, perhaps, more serious, time-served decisions by parole boards may be more greatly influenced by it. For this sample, however, institutional behavior of the inmates did not appear to be a substantial consideration in how long offenders would spend in prison. Of course, the question of the validity of using institutional behavior as a factor in time-served decisions—either as predictive of post-release success or as a deterrent to institutional misconduct—is a separate empirical issue.

This study has several limitations that might have affected the results. Most importantly the operational definition of disparity is open to question. This is always the case in research of this type in the absence of an experimental design with a random allocation component. The number of pos-

sible mitigating and aggravating circumstances are large. The possibility exists that significant factors not included in the data set, and important in defining equally situated offenders, exist and that these factors effect the variation in time-served more than in sentence length, and that, therefore, the disparity reduction hypothesis is more tenable than these results suggest. It is argued, however, that the major factors most often regarded as important in defining equally situated offenders were available and that if a *substantial* and consistent disparity reduction effect with respect to offense and prior record were present, then this analysis would have found more evidence of it.

This study, as well as prior research, has indicated that a good deal of variation in sentences exists that cannot be attributed to either variations in offense or variations in prior record. The results of this study can shed some light on the crucial question facing many sentencing reform proposals—what are the prospects that these proposals will substantially reduce this unwarranted variation in sentences? One implication of these results is that it is probably incorrect to assume that a systematic review of sentences, which includes sentence equalization as only a latent purpose, is likely to achieve substantial reductions in disparity. Without an explicit charge to look for and to rectify unwarranted variation—and, importantly, in the absence of concrete guidelines defining the boundaries of “equally situated offenders” within which to judge consistency and inconsistency—systematic review may simply be a matter of penalty substitution rather than a matter of meaningful disparity reduction. These results suggest that simply the fact that a smaller group of decision makers is involved in reviewing sentences than is involved in initially setting the penalty does not in and of itself ensure more consistent sentences.

Several reform proposals retain broad judicial discretion in setting terms of imprisonment and place emphasis on some form of sentence review, either by an administrative agency or by the judiciary⁴⁰ as a means to reduce unwarranted sentencing variation. These are not likely to succeed, judging by these results, unless explicit guidelines are formulated and mechanisms are instituted to ensure that they play a significant role in the review process.

One current reform strategy that places consid-

⁴⁰ An example is a proposal that emphasizes appellate review. See D.A. Thomas, *Equity in Sentencing* (Sixth Annual Pinkerton Lecture, School of Criminal Justice, State University of New York at Albany, April, 1977).

erable emphasis on equalizing sentences is the guideline approach adopted by the Federal Parole Commission (as noted, subsequent to the period of time studied here).⁴¹ Under this strategy, time-served decisions are made within guidelines reflecting parole prognosis and offense severity. This approach serves to raise the historically latent function of disparity reduction by parole boards to a central decision-making criterion. Whether this purpose is well served by this approach is a matter for empirical inquiry.

The critical issue facing disparity reduction proposals is the ability to balance the interests of equity against the interests of individualized justice. Proponents of contemporary proposals that

⁴¹ See Gottfredson, Hoffman, Sigler, & Wilkins, *supra* note 14.

allow considerable discretion in setting sentences by the judiciary to accommodate the vagaries of individual cases argue that discretion in pursuit of individualized justice is inevitable—if not provided for at the sentencing stage of the criminal justice process it will manifest itself at earlier stages (e.g. in charging decisions by prosecutors). Rather than eliminating disparity, it is argued that eliminating judicial discretion (as, for example, by rigid presumptive sentencing) simply makes it less visible.⁴² To the extent that these arguments are valid, efforts to curtail judicial disparity in sentence length could be made more effective by emphasizing subsequent review, but the results of this study indicate that review not specifically aimed at disparity reduction is probably inadequate.

⁴² See Thomas, *supra* note 40.