VIOLENCE AND VICTIMIZATION WITHIN THE

NORTH CAROLINA PRISON SYSTEM

by

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ABSTRACT

The research reported in this paper was undertaken to answer four questions: (i) How much violence actually takes place in North Carolina's prisons; (ii) What are the immediate precipitating causes of this violence; (iii) What common characteristics do the victims of this violence possess; (iv) What practical policies could be implemented to reduce the level of violence. Three data bases were used: (1) A sample of records of disciplinary hearings; (ii) Interviews with prison supervisors; (iii) Interviews with prison inmates. A synthesis of these data sets permits us to answer the above four questions, and also permits several inferences, one of which is that the rate of unprovoked victimization is much lower than is commonly believed.

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A. DEFINITIONS

We define a "pure" victimization as an event in which, without

provocation, an inmate or custodial official is physically assaulted. We

define a pure victimization rate--hereafter referred to as PVR--as the

ratio of the number of pure victimizations to the inmate population. This

definition only asks if a victimization took place. It does not account

for degrees of victimization--e.g. the extent of physical injury to the

victim, or the extent to which the victim has been psychologically damaged

by the victimization. Furthermore, the definition excludes instances

of theft, fraud, robbery, and extortion--i.e., crimes against the person or

against his property which do not involve actual physical aggression against

that person. Hence, our definition is rather restrictive. Ideally, we would

have preferred a definition of victimization which included these other

crimes, and which recognized that victimization is a continuous variable,

but data limitations precluded the adoption of a wider definition.

Data limitations also prevent the development of a uniform empirical

measure of "pure" victimization. In this report, we shall use a variety of

measures of victimization. Although these measures of victimization are

empirically different, they have, as their common basis, the fact that a

person was physically assaulted.

These measures are defined as follows:

1. Superintendent Data Base

The best way to define the victimization measure which is based upon

our superintendent data is to present, verbatim, the question posed to each

of the ten institutions:

> In some assaults it would be fair to say that there
> is no victim. For example, inmate Green might call
> inmate Brown a homosexual, and thereby precipitate a
> fight between Green and Brown, a fight which results,
> at most, in minor bruises to one or both parties.
> In this instance, it would be hard to say that either
> Green or Brown was victimized.
>
> But there are other cases in which it is obvious that
> one inmate has been victimized. For example, Green
> might assault Brown without the slightest provocation,
> or because he wants to rob Brown. In this case Brown
> has been victimized.
>
> Let us focus on these genuine cases of victimization,
> cases in which one inmate is assaulted, and in which
> the assault was unprovoked, undeserved, unjust, unfair,
> and so forth; so that we can truthfully say that the
> inmate was a victim: he ended up on the short end of
> the stick. (In this question we refer only to crimes
> against the person, not to crimes against property.)

We expected this measure of victimization to provide a subjective

estimate of the PVR. We have reason to believe, however, that some super-

intendents interpreted the definition much more broadly; and that, as a

result, the superintendent estimate is upward biased.[1]

2. Offense Report Data Base

The basic approach to this measure of victimization is as follows: we

determine the total number of inmates involved in an assaultive incident (A),

the total number of inmates charged with an assault in that incident (B),

and, in gang-type incidents, the total number of inmates not charged, but

who were actively aggressive in that incident (C), as determined by our

reading of the Offense Report documents. The number of victims (V) in an

incident then becomes V = A-B-C. A typical example of a victim is this:

Two inmates are involved in a fight, and one is charged with assault. We

define the other inmate as the victim.

This measure of the victimization rate will overstate the PVR because

some of the inmates whom we define as victims may have contributed in one

way or another to his victimization. On the other hand, this measure of victimization will tend to <u>understate</u> the PVR because it is based on known, rather than the actual number of assaults. We shall argue below that the net effect of these two biases will be to <u>overstate</u> the PVR.

3. Inmate Data Base

In April/May, 1971, the following two questions were posed to a sample of 300 inmates.

"Since January 1, 1971, have other inmates done any of these things to you?

    1. Hit you with an object (broom handle, lead pipe, knife, etc.)

    2. Hit you or roughed you up, using only head, fists, legs, etc."

A response of yes to either #1, #2, or to both questions provides a measure hereafter referred to as gross inmate victimization.

In April/May, 1971, the inmate was also asked the following two questions:

"Since January 1, 1971, have you done any of these things to another inmate?

    3. Hit him with an object (broom handle, lead pipe, knife, etc.)

    4. Hit him or roughed him up using only head, fists, legs, etc."

A response of no to both #3 and #4, and a response of yes to either #1 or #2 or both #1 and #2 provides a measure hereafter referred to as net inmate victimization. Thus a net victim is an inmate who alleges that he was assaulted, and also alleges that he, himself, committed no assault during the survey period.

Both the net and gross victimization rates will exceed the PVR because they take no account of the fact that the inmate may have provoked, or otherwise, contributed to his victimization.

B. EXTENT OF VICTIMIZATION

1. Victimization Rates

We have generated four estimates of victimization. Two of these are based on the ten institutions during the last quarter of 1975, and two on the inmate survey. The range of victimization rates obtained from these sources are, respectively, 1.7 - 10.6 and 5.8 - 19.4, as the following tabulation shows.

Data Base	Population Base	Victimization	
		Number	Rate/3 months
Offense Report	4495	76	1.7-2.4[a]
Superintendent	4495	154-478	3.4-10.6
Inmate			
net victim.	303	29	5.8
gross victim.	303	98	19.4

[a]The 1.7 value is derived from reported incidents of assault. The Superintendent Data Base shows that 29% of all assaults are unreported. If 29% of all victimizations are unreported, then the correct victimization rate is 2.4.

We believe this wide variation in victimization rates is largely due to differences in definition of victimization. As we argued above, none of the estimates is a measure of the PVR. In our judgment, the Offense Report Data comes closest to this estimate. We have seen that all estimates permit some persons who provoked their victimization to be counted as victims. The Offense Report Data Base permits an estimate of the proportion of victims who provoked their victimization. This proportion, together with the Offense Report victimization rate, allows us to establish, as our best guess, an <u>upper bound</u> value of 0.6 percent for the PVR.[2] That is, <u>we believe that the pure victimization rate is no greater than six inmates per thousand per three month period, or an annual rate of 2.4 percent.</u>

We believe that the victimization rates reported in the above tabulation vary directly with the degree to which the inmate contributed to his own victimization. For example, the net inmate victimization rate of 5.8 percent takes no account whatsoever of the victim's own culpability. The Offense Report data does account for this factor, but only to the extent that the victim was, himself, not convicted of an offense. Hence, the latter data base should provide a lower victimization rate; which, of course, it does.

We also suspect that the superintendent data reflect varying degrees of inmate culpability. Despite our effort to obtain a PVR estimate from the superintendents, we believe some superintendents gave us victimization rates which included victimizations in which the inmate was partially contributory to the assault. This is particularly evident from an examination of victimization rates by institution. Table 1 shows extreme variation in estimates among institutions; and, where more than one estimate was available for an institution, extreme variation within institutions. Furthermore, as the table shows, when a uniform definition of victimization is used, as is true of the Offense Report data, the range of variation among institutions is much reduced.

In effect, therefore, these data permit the reader to choose among a broad range of victimization rates, depending on the degree to which he would allow the victim to contribute to his own victimization.

Are the victimization rates reported above "high" or "low"? One interesting comparison is this: For all males living in the United States in 1974, the victimization rate associated with aggravated assault was 29/1000, and that for all assault was 63/1000. (These rates are adjusted to conform to the age distribution of our inmate population.) The comparable inmate victimization rates, based on our Offense Report Data Base, are 45/1000 and 96/1000, respectively. Thus an inmate within a North Carolina

TABLE 1

VICTIMIZATION AND ASSAULT RATES, BY INSTITUTION:
SUPERINTENDENT AND OFFENSE REPORT DATA BASES, 1975-IV

Institution	Victimization Rate				Assault Rate	
	Superintendent Data Base		Offense Report Data Base		Offense Report Data Base	
	Number	Rate (%)	Number	Rate (%)	Number	Rate (%)
	(1)	(2)	(3)	(4)	(5)	(6)
All Institutions	154-478	3.4-10.6	76	1.7	178	4.0
Western	45-54	8.4-10.1	13	2.4	27	5.1
Harnett	9-270	1.8-52.8	17	2.3	39	7.4
Polk	75-120	14.1-22.9	10	2.0	28	5.6
Sandhills	3	2.2	4	2.0	6	4.5
Burke	0	0	0	0	0	0
Central	3	0.2	19	1.6	45	3.6
Caledonia	1	0.2	6	1.0	16	2.8
Odom	6-12	1.6-3.1	4	1.0	6	1.6
Blanch	12-15	10.9-13.6	3	2.7	7	6.4
Women's Prison	$\doteq$ 0	0	0	0	4	0.8

prison had a fifty percent greater chance of being assaulted than his ordinary, non-institutionalized counterpart. (Using the net inmate victimization rate, the inmate's risk was 270 percent greater. This comparison is, however, inadmissible, since no follow-up questions were employed in this survey as a means of establishing the inmate's veracity, or to determine whether his experience really qualifies as an assault.) Our impression is that inmate victimization rates are considerably lower--the 270 percent rate included--than the public, and even informed observers, suppose them to be.

2. Sexual Victimization

We posed the following questions to the superintendents of the ten institutions:

1. How many incidents of homosexual rape or of other sexual assault do you recall as having been committed at this institution during the past three months? In responding to this question, I would like you to consider only those incidents in which one person was physically forced to participate in a sexual act.

2. How many of these incidents do you recall as having occurred at this institution in the past year?

We summarize the responses to these questions in the following tabulation.

| | | Incidents of Sexual Assault | | | |
| | | Within Last 3 Months | | Within Last Year | |
Institutions	Population	No.	Rate	No.	Rate
All Institutions	4495	9	0.20	30-31	0.67-0.69
All Male Youth	1739	3	0.17	15-16	0.86-0.92
All Male Adult	2274	6	0.26	15	0.66

Are these rates "high" or "low"? One interesting comparison is this: In recent years, the probability that a woman of age 12 or over, living in a large city in the United States, will be forcibly raped during a year is between 0.2 and 0.7 percent.[3] Thus, an inmate in one of our ten institutions

would seem to be subjected to approximately the same risk of being sexually assaulted as our normal, non-institutional female population experiences.[4]

3. Victimization of Custodial Officials

We derived a staff victimization rate on the basis of a standardized 40-hour work week. There were twelve victimizations among the 1543 staff members in the ten institutions in 1975-IV. We can assume that the staff spent, on the average, 70 percent of their time in contact with the inmate population. Hence, the twelve assaults imply a victimization rate of 1.1 percent. This means that a staff member spending all of his shift time in contact with inmates has a 1.1 percent chance of being victimized in a three-month period. This rate is almost twice the pure victimization rate (PVR) experienced by inmates.

There were 126 incidents of assault during the survey period. Hence, an officer was victimized in one out of every ten assaultive incidents.

C. CAUSES OF VICTIMIZATION

This section is concerned with the immediate, precipitating causes of victimization. We begin by considering the relation between victimization and assault.

1. The Victimization/Assault Relation

Analytically, the relation between the victimization rate (V/P) and the assault rate (A/P) can be expressed as

$$\frac{V}{P} = \frac{V}{A} \cdot \frac{A}{P} \; ,$$

where V, A, and P represent the number of victimizations, number of assaults,

and the population, respectively. That is, the victimization rate can be decomposed into two effects: the assault effect (A/P) and the non-assault effect (V/A). The former expresses the relation between assault and victimization, the latter the relation between non-assault (or assault-specific) factors and the victimization rate.

A priori, one would expect to find a positive correlation between victimization and assault, since a victimization cannot occur without an assault. However, since an assault can occur without a victimization, the correlation would not necessarily be very close. Our Offense Report data permit an estimate of the relation. The rank correlation between the ten institutional victimization rates reported in Table 1, column (4) and the corresponding assault rates of column (6) equals 0.92, which indicates that V/P and A/P have a high degree of covariation,[5] with assault rates tending to be 3 1/3 times higher than the corresponding victimization rates. One might also say that variations in assault rates (A/P) provide most of the explanation for variations in victimization rates (V/P).

In the following analysis, we shall make use of this analytical framework.

2. Causes Directly Cited in the Offense Data Base

Altogether, there were 126 reported incidents of assault. We read all the official documents relating to these 126 incidents. We were able to determine the immediate, precipitating causes relating to 96 of these incidents. Furthermore, we were able to distinguish between those incidents involving a victim and those not involving a victim. Table 2 shows the distribution of causes by type of incident. The first three columns present the distribution of principal causes; the next three columns the distribution when as many as three causes could be identified with respect to an individual incident.

TABLE 2

DISTRIBUTION OF CAUSES OF ASSAULT BY
PRINCIPAL AND SECONDARY CAUSE AND BY
PRESENCE OF A VICTIM

| Cause of Assault | Number of Times Cited | | | | | |
| | As Principal Cause | | | As Principal or Secondary Cause | | |
	Victim	No Victim	Total	Victim	No Victim	Total[a]
Total, All Causes	56 (100%)	40 (100%)	96 (100%)	76 (100%)	51 (100%)	127 (100%)
Economic[b]	24 (43)	13 (33)	37 (39)	26 (34)	14 (27)	40 (31)
Gambling	3	1		3	1	
Debt and Other Money	10	4		12	4	
Property	11	8		11	9	
Inmate Interaction[b]	28 (50)	24 (60)	52 (54)	46 (61)	33 (65)	79 (62)
Verbal Abuse	12	14		18	18	
Horseplay	4	4		4	6	
Revenge	5	3		10	4	
Sex	3	1		8	2	
Race	2	1		4	2	
Peer Group Position	2	1		2	1	
Mental Illness	4 (7)	3 (8)	7 (7)	4 (5)	4 (8)	8 (6)

[a] Details do not add to 100% because of rounding.

[b] Economic factors involve money and property. Money is dichotomized into gambling and other money matters. The most important component of the latter is indebtedness; hence the category, Debt and Other Money.

Revenge refers to various reasons for getting even with an inmate, involving real or imagined aggression, insult, etc.

Peer Group Pressure refers to the inmates self-confessed need to show his peers that he would not tolerate another inmate's real or imagined aggression, insult, etc.

Inmate interaction accounts for more assaults than economic factors: 54 vs. 39 percent of the principal causes, and 62 vs. 31 percent of all causes. Hence, one would expect inmate interaction to be associated with more victimizations than economic factors. The data confirm the expectation. Fifty percent of the assaultive incidents involving a victim have inmate interaction as the principal cause, and only 43 percent have economic factors as the principal cause. (With respect to all causes, the difference is even greater: 61 vs. 34 percent.)

However, economic factors are relatively more important in victimizing assaults. They were the principal cause in 43 percent of the victimizing assaults, but were the principal cause in only 33 percent of the assaults in which there was no victim.

In terms of our analytical model, the assault effect enhances the relative importance of inmate interaction, but the non-assault effect enhances the relative importance of economic factors. In commonsense language, this means that, if an assault occurs, it is more likely to produce an inmate interaction victim. On the other hand, an assault precipitated by economic factors is more likely to produce a victim than an assault precipitated by inmate interaction. Or, putting it still another way, victimizing inmates are more likely to be motivated by money, sex, and revenge than by other factors.

3. Demographic Characteristics and Inmate Victimization

a. Age and Victimization

The following table, derived from the Offense Report Data Base, shows the distribution of victimizations by age of the victim. Generally speaking victimization varies inversely with age.

TABLE 3

AGE-SPECIFIC VICTIMIZATION AND ASSAULT RATES:
TEN INSTITUTIONS, 1975-IV

Age	Inmate Population (Percent)	Victimizations (Percent of total)	Victimization Ratio (Percent)	Assault Ratio[a] (Percent)	Victimization/ Assault Ratio[a] (Percent)
	(1)	(2)	(3) = (2) ÷ (1)	(4)	(5) = (3) ÷ (4)
Total, All Ages	100.0	100.0	100	100	100
15-17	8.7	17.8	204	168	121
18-21	33.2	46.6	140	143	98
22-25	18.7	20.6	110	115	96
26-29	15.9	6.8	43	53	81
30-33	8.0	1.4	17	57	30
34-37	4.8	1.4	29	24	121
38-44	4.7	4.1	88	49	182
45-51	3.4	1.4	40	0	b
52-64	2.4	0.0	0	0	b
Over 64	0.3	0.0	0	0	b

[a]Percentage of total assaults divided by percentage of total inmate population (col. [1]).

[b]Undefined, since the denominator equals zero.

Victimization rates are closely correlated with assault rates--that is, there is a strong, positive assault-specific (A/P) effect.[6] By dividing the victimization rate by the assault rate we obtain an index of the non-assault (V/A) effect. This index, recorded in column (5) of the table, shows disproportionately high victimization rates for the 15-17 age group and for those in the over 33 age group.

One plausible explanation for the disproportionately high victim/ assault rate for the older group is that older persons are less prone to horseplay and verbal abuse, or, at least, are less likely to respond in an assaultive way to these provocating factors.[7] Hence, the mix of causes precipitating an assault changes with age. Accordingly, a larger proportion of assaultive incidents will be provoked by factors which we have shown to be more likely to produce a victim, viz., money, sex, and revenge. Thus, the older inmate stands less chance of being victimized because assault rates are much lower within his age group, but this A/P effect is somewhat offset by a positive V/A effect--specifically, because of changes in the motive for assault within his age group.

We are less sure of the explanation for the disproportionately high victim/assault rate for the 15-17 year age group. Our best guess is that there is greater variation in factors such as physical size which provide a larger proportion of "easy marks" within this age group for the assaultive inmate.[8] Thus the 15-17 year old stands more of a chance of being victimized because assault rates--the A/P effect--are higher in his age group and also because of a positive V/A effect.

Our Offense Report data permit a comparison of the age of the victim with that of his assailant. In 34 percent of the cases the victim was younger than his assailant, in 40 percent of the cases he was older. (In

the remaining 26 percent of the cases, they were of the same age.) Thus, on the average, the victim does tend to be older than his assailant, but the difference in proportions is too small to support the hypothesis that, in general, the victim is older than his assailant.

b. Race and Victimization

Our Offense Report data show that whites are much more likely to be victimized than blacks. During the three month period, approximately 2.2 percent of the white inmate population was victimized. The corresponding victimization rate for the black population was 1.2 percent—or 45 percent lower. The Inmate Data Base yields approximately the same white/black ratio. The net white inmate victimization rate was 12 percent; the black rate was 7.5 percent. The corresponding gross inmate victimization rates were 41 and 26 percent, respectively.

Race	Victimization Rate	Assault Rate	Victimization/ Assault Ratio
White	2.2	3.3	67
Black	1.2	4.4	27

Since whites have lower assault rates—3.3 percent vs. 4.4 percent—the A/P effect tends to produce lower white victimization rates compared to black rates. Thus, the higher white victimization rate is due to the assault-specific effect (V/A). Let us examine this assault-specific effect.

The predominant fact is that the race of the victim and the assailant tend to be the same, as the following tabulation shows. In 61 percent of the Offense Report incidents involving a victim, both victim and assailant are of the same race. The other 39 percent of the incidents—the multiracial

incidents--show that blacks are more likely to assault whites than whites are to assault blacks; i.e., the data show that race is less of a barrier to black victimizers than to white victimizers.[9] It is this racial cross-over effect which produces the higher white victimization rate.

Race of Victim	Race of Offender White	Nonwhite	Total
White	18 (78%)	23 (47%)	41 (57%)
Nonwhite	5 (22%)	26 (53%)	31 (43%)
Total	23 (100%)	49 (100%)	72 (100%)

4. Inmate Attitude and Victimization

It seems reasonable to suppose that a pure victim, in the sense defined above, would be a person who is less aggressive than his fellow inmate, and who is more likely to eschew violence and the instruments of violence. As we begin to admit increasing degrees of culpability into the definition of a victim, we would expect our victim to be less opposed to violence and the use of the instruments of violence. In the following section, we develop a statistical model which permits a test of the relation between victimization and inmate attitude.

a. The Statistical Model

The Inmate Data Base can be used to relate net and gross inmate victimization, as defined above, to two direct measures of inmate attitude toward violence, and one indirect measure of attitude. Specifically, we propose to estimate a linear relation of the following form:

$$V_i = b_0 + b_1 \text{ JUST} + b_2 \text{ FORCE} + b_3 \text{ WEAP} + b_4 V_j + b_5 \text{ CUST}$$

$$\ldots + b_6 \text{ AGE} + \mu \ ,$$

where $i = 1, 2, 3$ $j = 2, 3$, and

V_1 = Net inmate victim. $V_1 = 1$ if inmate was assaulted but did not

commit assault. Otherwise $V_1 = 0$.

V_2 = Gross inmate victim. $V_2 = 1$ if inmate was assaulted. Otherwise

$V_2 = 0$.

V_3 = Gross inmate offender. $V_3 = 1$ if inmate assaulted another inmate.

Otherwise $V_3 = 0$.

JUST = Is inmate assault justified? Based on the response to four problem

situations described in Appendix B. Yes = 2, Indifferent = 1,

No = 0, for each problem situation. Thus, $0 \le \text{JUST} \le 8$.

FORCE = Should an inmate use force if he needs something badly? Yes = 1,

No = 0.

WEAP = Does the inmate possess a weapon? Yes = 1, No = 0.

CUST = Inmate custody grade, a control variable. Maximum = 4, Close = 3,

Medium = 2, Minimum = 1.

AGE = Age of inmate in years, a control variable.

μ = A random, normalized error term.

JUST and FORCE are taken to be direct indices of the inmate's attitude
to violence. If it can be assumed that an inmate who owns a weapon is more
likely to be aggressive than one who does not, then WEAP provides an indirect
measure of attitude toward violence.

b. The Statistical Results

The above linear relation was estimated, using a multiple regression procedure. The b coefficients which we have estimated, using our three dependent variables (V_1), are presented in Table 4.

No a priori expectation about the signs of JUST, FORCE, and WEAP is warranted. It is possible that the typical victim, as well as the offender, endorses violence. The hypothesis that the less cupable victim is less likely to endorse violence only implies that the coefficients of JUST, FORCE, and WEAP should become increasingly negative as the "purity" of the victim increases. If the progression from gross offender (V_3) to gross victim (V_2), to net victim (V_1) can be interpreted as an index of purity of victimization, then it is possible to test the hypothesis.

The coefficients of JUST, FORCE, and WEAP are reported in Table 4. In general, the signs of the coefficients behave as expected. They lend support to the hypothesis that a victim is less likely to possess a weapon. The results are disappointing, however, in that the differences in the coefficients between degrees of victimization do not appear to be statistically significant.

The close association which has been shown to exist between assault and victimization should lead one to expect that an inmate's own assaultive history contributes to the likelihood that he will become a victim. Equation (2) confirms this expectation by showing that the most important variable in explaining victimization is the fact that the victim was, himself, an assailant. Notice, also, that the addition of this variable to the model considerably increases its explanatory power (R^2 increases from 0.14 to 0.32).

It can be shown that one condition for minimizing the overall victimization rate is to deploy one's staff in such manner as to equalize the

TABLE 4

REGRESSION COEFFICIENTS FOR VICTIMIZATION/
INMATE ATTITUDE RELATION
(Absolute t values in parentheses)[a]

Equation	Dependent Variable	Independent Variable							
		JUST	FORCE	WEAP	V_3	V_2	CUST	AGE	R^2
(1)	V_2	-.00 (.08)	.03 (.42)	.20 (3.03)	–	–	-.05 (1.74)	-.02 (5.32)	.14
(2)	V_2	-.01 (.77)	.03 (.44)	.02 (.34)	.47 (8.90)	–	-.04 (1.71)	-.01 (3.57)	.32
(3)	V_1	-.00 (.08)	-.12 (.56)	-.29 (1.46)	–	–	.08 (.92)	-.02 (1.46)	.07
(4)	V_3	.02 (1.33)	.01 (.07)	.38 (5.89)	–	–	-.01 (.47)	-.01 (4.45)	.20
(5)	V_3	.02 (1.53)	-.01 (.14)	.29 (4.97)	–	.45 (8.90)	.01 (.36)	-.01 (2.15)	.37

[a] t values in excess of 1.64, 1.96, and 2.58 provide statistically significant values at the ten, five, and one percent levels of significance, respectively, on the assumption that the usual requirements for multiple regression hold-- in particular, that the error term is a random, normal variable with zero expectation.

The dependent variables in these regressions are dichotomous. The closer their mean value is to zero or one, the further the expected value of the error term will depart from zero; and, accordingly, the greater will be the bias in the estimates of the coefficients and their t values. The mean value for net inmate victim is 0.09, which is, subjectively speaking, quite far from the ideal of 0.5. In order to achieve a less skewed variable, we reduced our non-victim sample to the same size as the victim sample size, using the following procedure. We selected for inclusion in our sample only that non-victim observation which immediately followed a victim observation in our computer data file.

victimization rate by custody grade.[10]   If staff were, in fact, optimally

deployed, the coefficient of custody grade with respect to victimization

should be close to zero. A parallel argument applies to the assault rate.

The coefficients of CUST in Table 4 become, therefore, a test of the optimum

deployment of staff by custody grade. These data suggest that staff may be

relatively overrepresented in the closer custody grades in terms of mini-

mizing the net offender rate. Since the coefficients are, at best, only

statistically significant at the ten percent level, and since they argue

for contradictory redistributions of staff supervision, the most reasonable

inference, in the absence of other, contrary evidence, is that a redeploy-

ment of staff across custody grades is not likely to be advantageous.[11]

Finally, the age coefficients are negative, as we expected. They

support our earlier conclusion, viz., that victimization and assault are

less likely to occur with older inmates.

5. Sanctions and Victimization

Theory and the preponderant weight of empirical evidence lead to the

conviction that crime in general, and assault in particular, varies inversely

with the probability of being sanctioned. We hypothesize that this probability

has the same deterrent effect on inmate populations.

The presumption is that the closer the degree of supervision of the

inmate population, the greater the probability that an offender will be

sanctioned for an assault, and, accordingly, the less likely it is that he

will commit that assault.[12]

The superintendent data support this view by suggesting that assault

rates vary with the quantity and quality of supervision. When asked the

following question: "Do you think that an increase in supervisory personnel

would lead to a significant reduction in assaults in this institution?"

seven of the nine superintendents responded, "Yes, definitely," and only one said that he doubted there would be much effect. When the supervisors were asked if assault could be reduced by reassigning personnel so that fewer manhours were devoted to non-supervisory activity, their response was virtually identical to the preceding question.

If we are correct in our conjecture that the assault rate varies inversely with the probability of being sanctioned, then we may infer that the victimization rate also varies inversely with that probability. That is, on a priori grounds we expect the assault-specific effect to be positive.

The following tabulation, based on our Offense Report data, permits an evaluation of the non-assault effect, V/A. We see that 49 percent of all incidents not involving a victim began in the presence of an officer, whereas only 43 percent of victimizing incidents began in an officer's presence. One plausible interpretation of these data is that an incident involving a victim is more likely to be premeditated, to take cognizance of the risk of detection, and, therefore, to occur outside the presence of an officer.[13]

Did Incident	Initial Source of Information				
Involve Victim	Visual	Sound	Inmate	Other	Total
No	31 (67%)	8 (17%)	5 (11%)	2 (4%)	46 (100%)
Yes	39 (56%)	9 (13%)	21 (30%)	1 (1%)	70 (100%)
Total	70 (60%)	17 (15%)	26 (22%)	3 (3%)	116 (100%)

Thus, we infer that more supervision would reduce victimization because it would reduce assault--the A/P effect--and because victimizing assailants are particularly sensitive to the likelihood of being sanctioned.

D. POLICY DISCUSSION

1. Demographic Reorganization

At the present time, the inmate population is organized, or structured, with respect to several characteristics--sex, age, and potential for violence come readily to mind. We believe there is a need to reconsider the demographic structure as it now exists.

We have shown that one necessary condition for minimizing the total number of victimizations (or assaults) is that the victimization (assault) rate be made equal across custody grades.[14] That argument leads to the following important principle:

The victimization (assault) rate can always be reduced as long as there are any two inmate populations which have different victimization (assaultive) propensities.[15]

The principle can be applied to the age distribution of the population. The inmate population which we have surveyed is presently segregated into three age groups: 15-16, 17-21, and over 21. This structure appears to be reasonable because youths and adults have different victimization and assaultive propensities. What we find, though, is that the present structure disguises great variation in assault and victimization rates within the adult population itself. This suggests the possibility of segregation by age within the adult population as a relatively costless way of reducing the amount of assault and, therefore, the amount of victimization.

The principle also applies to custody grade, as we have already shown. Presumably, one function of classifying inmates by custody grade is to segregate them by their propensity to commit assault, or to be victimized. How fine the custody grade classification should be is a policy question,

involving complex cost/benefit calculations; and is, of course, beyond the scope of this study. However, our data--especially our superintendent data-- argue the possibility that the system would benefit from a somewhat finer degree of inmate classification. Such restructuring, assuming no change in staff, would probably reduce the overall assault and victimization rate.[16]

One intent of such measures as segregation by finer custody grades and by age within the adult population is to isolate the assaultive population from the non-assaultive population. This restructuring of the population also has the effect of segregating the two types of victims. Those victims who, themselves, commit assault, and therefore tend to bring victimization on themselves would tend to be placed in the assaultive population. The pure victim, he who does not provoke assault, would tend to remain in the general population. Since the pure victim is no longer available as an easy mark for the assaultive population, we should expect a decrease in the pure victimization rate.

On the other hand, we do not know what would happen to the victimization rate within the assaultive population. It could be that a potential assailant within that population, lacking an "easy mark" would become non-assaultive. But it might also be true that the interaction of potential assailants, thrown closer together, would lead to more assault. Even if the latter is true, however, this would represent an increase in victimization among a group of assailants, which is a different thing from pure victimization.

2. Inmate Contact

It is obvious that one cannot have a victimization, or an assault, without inmate contact. We have seen that inmate interaction as a general category,[17] is a very important factor leading to assault, and therefore to victimization. Furthermore, superintendents tend to think in terms of

single cell occupancy, reduced inmate density, and reduced idleness as the principal means for reducing assault and victimization; and these factors imply less inmate contact. Hence, it would seem that the prison system would benefit from policies which would reduce the extent of inmate contact.

3. Quantity and Efficiency of Supervision

In a number of ways, both direct and indirect, our evidence indicates that assault and victimization vary inversely with the risk of being sanctioned, and that the risk of being sanctioned, in turn, varies directly with the amount of supervision. Thus, more supervision means fewer assaults and vicitimizations.

More supervision can be attained through an increase in staff or through an increase in the ratio of supervisory to non-supervisory manhours. Obviously, the former depends on a budget appropriation, and a prison administrator can do little to effect this sort of increase.

If total staff time is fixed, one can still increase the amount of supervision by decreasing staff time devoted to other activities. We explored a number of possibilities with the supervisors whom we interviewed—such as the possibility of reducing the amount of paperwork associated with the supervisory function, and reducing the time spent transporting inmates to court and to medical facilities. Our impression is that no one program is likely to have much effect, because of the extraordinary diversity of conditions facing the administrators of the different institutions—different inmate populations, different housing facilities, etc.—and because of court-mandated procedures. Furthermore, our impression from talking with the superintendents is that the possibility for a reduction of non-supervisory activity on an institution by institution basis—one program here, another there—is not very great.

Thus, one's attention naturally, and necessarily, turns to ways of increasing the efficiency of his staff. Two potentially fruitful possibilities for increasing staff efficiency, and therefore supervisory output, were explored in this project:[18] (i) Achieving a more efficient distribution of staff manhours, and (ii) Providing staff with more and better equipment and facilities.[19]

a. Allocative Efficiency

One reason why we have given so much attention to the possibilities for demographic reorganization is that we believe that this is one feasible way of achieving a more optimal distribution of supervisory manhours. We showed that the average efficiency of supervision can be increased by segregating inmates in such a way that each inmate group becomes more homogeneous in terms of its assaultive or victimization potential.

There are other distributional possibilities, however. It may be that supervisory manhours are not optimally allocated over the course of the day and over the course of the week, since our data show that assault exhibits daily and weekly cycles. The superintendents were asked if a reallocation of supervision was feasible as a way of moderating these cycles. All of them were of the opinion that they had carried this type of allocation as far as possible, consistent with maintaining minimum security at times of minimum assault. So it would seem as if little could be done in terms of daily and weekly manpower reallocation.

There is one more possibility. Supervisory personnel perform a variety of non-supervisory duties. Perhaps some reorganization of the time for execution of these duties within the shift would be possible.[20]

b.   Equipment and Other Capital Inputs

Let us define capital as the collection of equipment, facilities, and
other man-made objects used in conjunction with the provision of supervision.
Generally speaking, an increase in capital input increases the productivity
of a unit of labor input. We would expect the same to be true for the
supervisory function. This expectation is supported by our interviews with
the superintendents. Hence, there can be no quarrel with the proposition
that more capital would lead to a reduction in assault and in victimization.

The superintendents recommended a variety of capital inputs, designed
to increase the efficiency of supervision. Among those that appeared most
desirable were improved communication equipment and single cell occupancy,
while metal detectors and closed-circuit TV received a more mixed response.
The fact that there was so little uniformity of opinion with respect to
particular types of capital input points up the principle that a unit of
capital will have different efficiencies depending upon the conditions
existing where it is being used. Since supervision operates under such
different conditions within the ten institutions, one would expect the
prison-wide introduction of a particular type of equipment to be less effi-
cient than its introduction into those institutions where a clear-cut need
is indicated.

E.   SUMMARY AND CONCLUSION

1.   Nature of Victimization

(i) Quarterly victimization rates vary from less than 0.6 percent to 19.4
percent, depending on one's definition of victimization. The 0.6 percent
refers to victims who were assaulted without provocation, i.e. to persons
who were in no way culpable.

(ii) The quarterly homosexual assault rate is 0.2 percent. An inmate was subjected to the same risk of being sexually assaulted as a non-institutional female living in a large U.S. city.

(iii) Victimization rates vary markedly by race, age, and institution.

(iv) The quarterly staff victimization rate is 1.1 percent. A staff member is victimized in one out of ten assaultive incidents.

2. Causes of Victimization

(i) Victimization rates vary directly with assault rates.

(ii) Victimization varies inversely with the degree of supervision.

(iii) Victimization rates are lower among older inmates, partly because older inmates commit less assault.

(iv) Economic matters, sex, and revenge are the main factors precipitating victimization.

(v) The main precipitating factors causing victimization are relatively more important for older inmates; and, therefore, lead to a somewhat higher victimization rate for older inmates than would otherwise occur.

(vi) The likelihood that an inmate will become a victim is considerably greater if that inmate has, himself, committed assault.

(vii) White victimization rates are higher than black victimization rates because blacks are more likely to victimize across racial lines.

3. Policy Implications

(i) Increasing the quantity and efficiency of supervision is a direct and obvious means for reducing assault and victimization. (But this takes money.)

(ii) Given departmental budget constraints, the most likely area for policy innovation would appear to involve a reorganization of the inmate population.

A finer classification of the inmate population by their propensity to commit assault would increase the efficiency of supervision, and, therefore, would permit a decrease in assault and victimization rates. As possibilities, we have considered more inmate custody grades, including a more efficient reclassification process, and classifying inmates by age within the adult inmate population.

APPENDIX A

The formal proof for the contention that victimization rates must be equal across custody grades if the overall victimization rate is to be minimized is as follows:

If V is the total number of victimizations, and c_i is the number of manhours of supervision for custody grade i, then the victimization relation can be written as

$$(1) \qquad V = F(c_1, c_2, \ldots, c_k).$$

Let there be a fixed number of manhours available for supervision, K; i.e.

$$(2) \qquad K = \sum_{i=1}^{k} c_i .$$

Combining Equations (1) and (2) we obtain

$$(3) \qquad V = F(c_1, c_2, \ldots, c_k) - \lambda(\sum_{i}^{k} c_i - K) ,$$

where λ is a Lagrangian multiplier.

The number of victimizations is minimized with respect to manhour inputs when

$$(4) \qquad \frac{\delta f_1}{\delta c_1} = \frac{\delta f_2}{\delta c_2} = \ldots = \frac{\delta f_k}{\delta c_k} = \lambda .^1$$

Consider the special case in which Equation (1) takes the log linear form

$$(5) \qquad V = \alpha_0 c_1^{\alpha_1} c_2^{\alpha_2} \ldots c_k^{\alpha_k} .$$

---

[1] To assure that we have a minimum, rather than a maximum, it is necessary that the second derivatives be positive.

This equation implies that a one percent increase in custody grade supervision c_i produces a constant percentage decrease in victimization ($=\alpha_i$). If Equation (5) provides a reasonable representation of the relation, as theory and empirical research would have us believe, then it can be shown that

$$(6) \qquad \frac{\delta f_i}{\delta c_i} = \frac{V}{c_i} \quad (i = 1,2,\ldots,k) \; .$$

Equation (6) implies that <u>the number of victimizations is minimized when manhours are so distributed that victimization rates are equal across custody grades</u>.

APPENDIX B

INMATE DATA BASE QUESTIONNAIRE

Some of the questions underlying the Inmate Data Base require no definition. Those that do are presented below, together with the variable name used in the regression analysis.

Variable	Definition
JUST	The sum of the following four questions (nonresponse to an individual question given a value of 2)

A newly arrived young inmate named Blue accepts a packet of cigarettes from an older inmate, named Green. Later on, Green approaches Blue and asks him to return the cigarettes. Blue says he does not have any. Green then says that Blue can repay the "gift" in another way--by dropping his pants. Blue gets really mad and beats up on Green.

How do you feel about what inmate Blue did? Did Blue do right, that is, give Green what he had coming to him, did Blue do something that was wrong, or do you not give a damn one way or the other?

___1. Blue did wrong.

___2. Don't give a damn, one way or the other.

___3. Blue did right.

Brown had lost a considerable amount of money through gambling. After giving him some time to repay the debt, Red, the inmate to whom Brown owed the money, confronted Brown and demanded repayment. Brown replied that he would not repay the debt now or at any other time. Two days later, Red smashed in Brown's face with a broom handle.

How do you feel about what Red did? Did he do right, that is, give Brown what was coming to him, did Red do wrong or do you not give a damn one way or the other?

___1. Red did wrong.

___2. Don't give a damn, one way or the other.

___3. Red did right.

Officer Green often does illegal favors for inmates--like carrying contraband letters outside the institution. Inmate Lemon discovers this and snitches to the supervisor. Green is demoted and transferred to another institution. One week later Blue, an inmate for whom officer Green had done quite a few favors, arranged for a heavy steel wrench to "accidentally" fall on inmate Lemon's foot. Three of his toes were broken.

How do you feel about what inmate Blue did? Did Blue do right, that is, give Lemon what was coming to him, did Blue do wrong or do you not give a damn one way or the other?

____1. Blue did wrong.

____2. Don't give a damn, one way or the other.

____3. Blue did right.

Inmate Red works as a cook. A member of the custodial staff tells Red that coffee is being stolen, and that as he is in the kitchen most of the time, it looks as if Red is the thief. Later on, Red learns through the grapevine that another inmate, Blue, is really stealing the coffee. Red tells Blue what the situation is, and asks him to stop. The next day some more coffee is stolen. Red catches Blue alone in the shower room and beats the hell out of him.

How do you feel about what Red did? Did he do right, that is, give Blue what was coming to him, did he do wrong or don't you give a damn one way or the other?

____1. Red did wrong.

____2. Don't give a damn, one way or the other.

____3. Red did right.

Variable	Definition

V_2 Gross Victim

= 1 if inmate responded that other inmates did either
of the following since January 1, 1971
a) Hit respondent with an object.
b) Hit respondent using only hands, fist, or legs.

= 0 otherwise.

V_3 Gross Offender

= 1 if inmate responded that he did either of the
following since January 1, 1971
a) Hit someone with an object.
b) Hit someone using only hands, fist, or legs.

= 0 otherwise.

V_1 Net Victim

= 1 if V_2 = 1 and V_3 = 0.

= 0 otherwise.

V_4 Net Offender

= 1 if V_2 = 0 and V_3 = 1.

= 0 otherwise.

WEAP   Since January 1, 1973 have you ever owned a home-made
weapon, or an item that could be used as a weapon?
Yes = 2, No = 1.

FORCE   Some guys say that inmates should not behave violently.
Others say that if a guy needs something really badly
and if using physical force or threats is the best way
to get it, then it is OK. What do you think?

INSTRUCTION: let the respondent answer the question.
If he does see force as useful in getting a guy what
he wants badly, check response option two below. If
he believes inmates should not behave violently, check
response option one.

____1. Force should not be used.

____2. Force OK if used by a guy to get something he
wants badly.

FOOTNOTES

[1] We discuss this bias below.

[2] Our estimate is based on the following argument. First, we reason that an assault involving a victim would be regarded by a custodial official as being at least as important as an assault in which both parties share some responsibility, and, accordingly, that the official would be at least as likely to report an assault involving a victim. This being so, the following relation would hold

$$(1) \qquad \frac{V_R}{A_R} \geq \frac{V_T}{A_T} \, ,$$

where A and V represent the number of assaults and victimizations, respectively, and R and T represent reported and actual values. From the above tabulation we know that

$$(2) \qquad A_R = (1 - .29)\, A_T, \quad \text{whence}$$

$$(3) \qquad V_T \leq 1.41\, V_R \quad .$$

Based on a reading of the Offense Report documents, we conclude that the victim contributed to his own victimization in 70-80 percent of the 76 victimizations. Thus, the ratio of known pure victimizations to known victimizations is .2 - .3 . If this ratio also holds for actual victimization, then the actual number of pure victimization (PV) would be, on the average,

$$(4) \qquad PV = .25\, V_T \leq (.25)(1.41)\, V_R = .35\, V_R \quad .$$

If we divide both sides of Equation (4) by the inmate population, we obtain a relation involving the pure victimization rate (PVR) and Offense Report victimization rate

$$(5) \qquad PVR \leq .35\,(1.7) = \underline{0.60} \quad .$$

Q.E.D.

[3] Based on the national Crime Panel's victimization survey, involving eighteen of our larger cities, including the five largest cities. See United States National Criminal Justice Information and Statistics Service (NCJISS). _Criminal Victimization Surveys in the Nation's Five Largest Cities_ (1975), passim; and NCJISS, _Criminal Victimization Surveys in 13 American Cities_ (1975), passim. The rate for the entire U.S. is 0.4 percent.

[4] Our Offense Report Data Base provided one reported incident of sexual assault during the three month period, resulting in four inmates being charged.

[5] This is statistically significant at the .01 level.

[6]The rank correlation coefficient between columns (3) and (4) is +.82, which is statistically significant at the .01 level.

[7]Our Offense Report Data Base confirms this assertion.

[8]The "easy mark" hypothesis could also be used to explain the higher victim/assault rate within the over-33 age group.

[9]The differences are statistically significant at the 0.1 level.

[10]The formal proof of this contention is given in Appendix A.

[11]Our Offense Report Data Base also can be used to test for a relation between the victimization rate, or the assault rate, and the degree of closeness of custody. The following tabulation suggests such a relation does not exist; and that with reference to these two rates, the deployment of staff may be optimal.

Custody Grade	Victimization Rate	Assault Rate
Minimum	1.3	3.0
Medium	1.8	4.2
Close	1.5	3.5
Maximum	1.9	3.8

[12]One would expect the actual assault rate (including undetected assaults) to vary inversely with the probability of being sanctioned. The known assault rate may not. On the one hand, an increase in supervision would tend to deter offenders and hence reduce the assault rate; but, on the other hand, an increase in supervision would imply that more assaults would be reported.

We do not mean to imply that all inmates respond to the likelihood of being punished. There is ample evidence that some would commit assault even when it is absolutely certain that they would be sanctioned. Notice, above, that 46 percent of known assaults took place within the presence of an officer. However, as long as a substantial subset of the inmate population does respond to the likelihood of being sanctioned, this variable could have a significant effect on the assault rate. (The known assaultive population represents about four percent of the total inmate population. If half of these four percent do not respond to sanctions, we are left with a maximum of ninety-eight percent of the inmate population who may be responsive. We simply do not know what the assault rate would be like if the probability of sanction were zero, but surely that assault rate would be many times the existing rate.)

[13] It is also possible that an officer on the scene has more information about the assault, and may be less likely to declare one of the parties to the assault to be a victim. But one could just as plausibly argue the converse.

[14] See Appendix A.

[15] Our optimality principle is developed on the implicit assumption that the cost of a manhour of supervision is equal across uses. Furthermore, we assume that supervision is a continuous variable; i.e. that one can adjust supervision by small amounts. When we deal with age and custody grade, these assumptions seem reasonable; for other variables they may not be. The more general principle, which allows for different costs of supervision and for "lumpy" labor inputs is easily developed, but is not essential to our argument.

[16] This statement is consistent with our expressed belief that staff deployment across custody grades already may be optimal. Optimal refers to present custody grade classification. If the inmate population within the present custody grades is heterogeneous with respect to its propensity to commit assault, then optimality requires a finer classification.

[17] Verbal abuse, horseplay, revenge, sex, etc.

[18] We have not explored another obvious possibility, viz. improving supervisory skills through training and other programs.

[19] In economists' jargon, the average and marginal efficiency of the labor input (staff manhours) increases with an increase in capital input (equipment, building improvements, etc.).

[20] We have been advised by the N.C. Department of Correction that only 2.5 percent of available manhours are spent on outside duties; hence the effect of such reallocation probably would be minimal.

END