

INMATE ASSAULTS IN TEXAS COUNTY JAILS

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Local jails present unique challenges for the criminal justice researcher. The authors analyzed survey responses and existing documentation from 138 county jail administrators in Texas to determine relationships between select input variables and the incidence of inmate assaults on staff and other inmates. Logistic regression was used to examine the effects of importation model and managerial model variables on inmate assaults. The logistic model of inmate-on-inmate assaults was significant, whereas that of inmate-on-staff was not. The importation model approach was supported by a strong relationship between proportion of maximum security inmates and inmate assaults and by the relationship between inmates in metropolitan as opposed to non-metropolitan jails and inmate assaults. Findings indicated a weaker relationship between two managerial model variables. No discernible relationships were found between the degree of rehabilitative philosophy expressed by the administrator, the ethnic breakdown of staff, or the type of facility structure and inmate assaults.

Keywords: jail prisoner assaults; prisoner violence; county jails; staff-inmate assaults

BACKGROUND: PRISONER ASSAULTS

Prisoner assaults on both staff and inmates in correctional settings have been a topic of fundamental interest to practitioners and theorists alike since the inception of incarceration as a sanctions strategy. Essential individual safety is a prerequisite condition for any justice institution. To the extent that inmates may continuously and brutally assault one another or staff at will, the system will inevitably become dysfunctional and fail to accomplish its fundamental missions. Liabilities associated with assaults further underscore the proposition that internal violence must be clearly understood and, when possible, controlled. Therefore, scholars have conducted numerous studies

and developed elaborate theories over the decades that contribute to the collective understanding of prisoner violence in correctional settings.

THE PRISON ENVIRONMENT

Early researchers (Clemmer, 1958; Sykes, 1958) addressed the issue from the focus of behaviors developed by inmates within the prison subculture. Others such as Irwin and Cressey (1962) rebutted this position by noting that many behaviors, including propensities toward violence, are acquired in social and cultural environments where the inmates live and then imported into the prison where the behaviors are institutionalized. More recently, Dillio (1987) has argued that prisoner behavior is a function of managerial constraints (or a lack thereof) that should be controlled by prison management. Each of these orientations has led to a prescribed model and a corresponding theory complete with cases in point, explanations for instances where deviation seems to occur, and a wealth of replication studies. Most are grounded on incident-based reporting and many rely heavily on inmate trait-based reports. Most important, as it relates to this study, all are based on experiences in state or federal prisons. It is interesting that almost no research has focused on inmate assaults in local jails.

The question arises, Can the knowledge relative to assaults gained from prison studies be readily generalized to local jails, or is concurrent construct validity automatically transferable from one institutional environment to another? This study is presented in an attempt to examine the relationships that may exist in local jails between the occurrence of inmate assaults and various institutional and managerial factors. One underlying assumption of this approach is that behaviors such as prisoner assaults occur in the full context of an institutional setting made up of complex social, cultural, organizational, and political factors that may or may not be reflective of the state prison environment. Because few projects have concentrated on the jail culture, specifically, much of the work will necessarily be exploratory in nature. Obviously, any results will reflect a preliminary or "first pass" finding and should be enhanced, expanded, or replicated through future efforts.

A comprehensive survey was developed to poll Texas county jail administrators in an attempt to address a number of managerial issues such as general corrections philosophy, human resource and staffing demographics, agency organization, and various operational topics (Kellar, Jaris, & Manboah-Roxin, 2001). The specific issue of inmate assaults was considered by asking for the number of serious assaults in a calendar year committed by inmates on other inmates and by inmates on staff within each institution. To fully appreciate the contextual ramifications of these inquiries, one must consider

the nature of local jails as justice institutions in addition to those factors related to violent or aggressive behaviors by prisoners.

LOCAL JAILS: AN ALTERNATIVE RESEARCH ENVIRONMENT

Local jails are, perhaps, the most misunderstood institutions in the criminal justice system. They are an important component of the justice complex because they represent a kind of systemic hub where law enforcement, the courts, and corrections interface in a complex series of processes. Mays and Winfree (2002) refer to jails as "the gateway to the criminal justice system" (p. 90). Among the institutions and programs of the corrections system, jail is the one most neglected by scholars and least known to the public (Clear & Cole, 1997, p. 143).

Jails are generally viewed as extensions of a broader correctional system that is firmly grounded, as far as most academic researchers are concerned, in the study of state prisons (O'Toole, 1999). Because both prisons and jails are penal institutions, they each comply with those principles related to corrections theory that have been meticulously constructed by scholars trained in the study of prison systems. However, certain assumptions associated with state prisons may be invalid, or at least misleading, when applied to county or local jails.

A negative image is often associated with local jails (Zupan, 2002, p. 38). This may be attributable to the lack of a firm and positive institutional identity for the agency. Most county sheriffs, the individuals charged with the administration of some 70% of local jails (Kerle & Ford, 1982), consider law enforcement as their primary duty. The responsibility for jail management may be maintained with reluctance or relegated to marginal subordinates. The typical county sheriff and his or her deputies may have little interest in corrections or jails (Clear & Cole, 1997; Moynahan & Stewart, 1980). In systems where the jail staff is made up of law enforcement officers, assignment to jail duty is often considered boring, less glamorous than law enforcement billets, or even demeaning (Peak, 2001). Few, if any, organized lobbies or influential interest groups advocate increased spending for jails. Perhaps, from a political perspective, this is because jails have no "sex appeal." Zupan (2002) attributes Huey Long with the adage, "There ain't no votes in prison!" (p. 48). With the exception of reforms initiated by judicial intervention during the 1970s, local jails often reflect practices and structures dating back to the 19th century. This lack of administrative priority and workplace status inevitably leads to a negative institutional environment (Gaines, Kaune, & Miller, 2000).

Administrative structures for local detention operations vary greatly from one jurisdiction to another, and this makes for confusing or even invalid comparisons. As mentioned earlier, elected county sheriffs manage most jails, but some fall under the authority of a local police chief. Some jails are managed as a department within a county government and are headed by an appointed director. A few states maintain local jails as a division of the state department of corrections (Mays & Winfree, 2002).

Local jails house a variety of inmate classification types. Virtually all convicted felons spend some time in county jails before they are transferred to state prisons. The judicial process may be extended for long periods of time, thereby assuring that some jail inmates are housed for lengthy stays. Further, jail inmates represent a virtual "hodge-podge" of classification categories in addition to those serving misdemeanor sentences and those awaiting trial. Jail inmates include felons bench-warranted as witnesses in other cases, parolees, probationers, absconders, individuals placed in protective custody, prisoners held for other state or federal jurisdictions, persons awaiting transfer to mental institutions, and even civil detainees (Mays & Winfree, 2002, p. 90).

PRISONER ASSAULTS: A REVIEW OF LITERATURE

Historically, researchers and scholars have constructed and defined a number of criminological theories and paradigms to explain violent behavior among incarcerated populations as well as individual propensities for aggression. At least three conceptual models have been widely studied and analyzed as a means of classifying aggressive behaviors exhibited by prison inmates. Almost all of these studies were conducted in prison rather than jail settings.

The deprivation model is based on Donald Clemmer's (1958) process of "prisonization" as described in his classic study, *The Prison Community*, and advocated by such notables as Gresham Sykes (1958). According to this view, incarcerated individuals adopt various elements of the prison culture through time and evolve a unique set of behavioral codes including a preference for violent behavior as a means of settling disputes. The prison experience itself dehumanizes the inmate and deprives the individual of self-esteem, personal value, and traditional cultural traits. This leads to frustration, anxiety, and ultimately those behaviors condoned by the subculture including assault and other aggressions. Some researchers have conducted studies that lend support for the deprivation model. Zingraff (1980) concluded that deprivation variables including length of time incarcerated, alienation from organized social units, and alienation from general society were

important predictors of inmate behaviors, especially among male delinquents. Paterline and Peterson (1999) found that deprivation model variables were better predictors of prisonization in maximum-security federal prisoners than were others. Petersen (1997) found that deprivation factors such as length of sentence affected ethnic inmate groups differently. Other researchers have concluded that although deprivation variables are not necessarily the best predictors of inmate behaviors, some linkage between prison-initiated cultural factors and inmate behavioral outcomes does exist (Alpert, 1979; Brown, 1990; Sorensen, Wrinkle, & Gutierrez, 1998).

A second approach to explaining prisoner violence is found in the importation model. This construct was originally proposed by Irwin and Cressey (1962), who theorized that various environmental and cultural behaviors were brought into the prison setting by the criminals themselves. The importation model defines the source of inmate violence as those factors external to the institution that caused the individuals to resort to violence as a means of coping in a hostile environment. Generally, importation theorists maintain that the inmate subculture reflects a lower class mentality influenced by poverty, lack of education, drug abuse, and gang life. Such variables as inmate race, age, and type of conviction may therefore be used to predict violent behavior or, in this case, prisoner assaults.

A large body of research supports the importation model. A decade ago, Fry and Frese (1992) noted that the importation model had gained ascendancy over a strict deprivation model in studies at the time. Brown (1990) found that age of inmate and proportions of inmates convicted of violent offenses were the best predictors of violence in California prisons. Wolf, Freinek, and Shaffer (1996) determined that both the frequency and severity of disciplinary infractions were negatively correlated with age in a group of youthful male offenders. A study by Cao, Zhao, and Van Dine (1997) supported the importation model. It concluded that inmate race and gender were the best predictors of violence in Ohio prisons. In a study of Washington state inmates, Alpert (1979) found that race and criminal history had the greatest effect on prisoner violence. A study of federal prisoners found that African American prisoners had higher rates of violence than did other groups (Harer & Steffensmeier, 1996).

A third approach to understanding prison or jail violence is labeled the *managerial* or *institutional model*. Dilulio (1987) maintains that applying appropriate managerial standards in what might otherwise be a cauldron of deprivation and importation variables can control inmate conduct. He rejects the notion that "anything that disrupts the inmates must also disrupt the prison" (see McCorkle, Miethe, & Drass, 1995). To the extent that the prison or jail authority can indeed manipulate prisoner behavior, the managerial

model can offset the effects of both the deprivation and the importation models. Dililio argues that the total prison experience does not necessarily equate with the negative behaviors associated with both the deprivation and importation models. Proponents of this orientation view levels of inmate violence as a function of those rules and regulations imposed by the managerial authority to control acts of assault. In addition, the managerial model has an innate appeal to practitioners because of the obvious policy implications contained in the orientation. Even if one accepts the validity of the other models, they offer no practical assistance to the administrator because the prison authority is obligated to accept inmates as they are. The manager can do nothing about those sociological factors that may have led an individual to a lifestyle of violence or those deep-seeded prison norms that reflect an entire counterculture behind bars.

From an institutional perspective, however, a great deal can be done to control various managerial variables. For Dililio, the outbreak of prisoner violence is the result of poor prison management. Factors such as appropriate inmate classification, proper security procedures, staff professionalism, training and positive inmate-oriented programming all contribute to the reduction of prison violence, a legitimate goal of the correctional institution.

Of all research conducted relative to prisoner violence, the managerial model yields the most impressive results. McCorkle et al. (1995) reviewed cases involving incidents of individual and collective violence from 371 state prisons and found that higher African American to White officer ratios were related to lower levels of inmate-on-inmate and inmate-on-staff violence. Further, institutions in which large proportions of inmates were involved in formal programs were less likely to have high rates of inmate violence. Larger facilities were more likely to experience higher rates of inmate violence. A comparative study of juvenile correctional institutions by Poole and Regoli (1983) measured the effects of several variables on offender violence and found that even though specific factors were related to outcome aggression, variations in institutional context mediated the effect of all independent variables. Memory, Guo, and Parker (1999) evaluated North Carolina's Structured Sentencing Law for prison inmates who violated institutional rules and concluded that the imposition of this law resulted in reduced rates of inmate violence, especially violence that was carried out in a calculated manner. Atlas (1983) reviewed architectural designs to determine if one style of prison was associated with lower rates of inmate violence. Although no design mode was found superior, he did conclude that lines of sight for corrections officers should be unobstructed, that dormitories were associated with higher rates of inmate violence than "single-bunking," and that direct supervision was related to a reduced rate of inmate violence.

Other dimensions of managerial variables have been subjected to rigorous analysis including a variety of sophisticated classification systems (Kennedy, 1986; Leeke & Mohn, 1986; Sechrest, 1991), a number of jail and prison programs (Wilkinson et al., 1994), and even inmate telephone systems (LaVigne, 1994). Many managerial factors seem related to inmate violence.

It should be noted that the so-called models delineated above may not be mutually exclusive in all cases. The researcher must apply a level of practical discretion to each circumstance so that generalized tenants are properly analyzed and evaluated. For example, McCorkle et al. (1995) classified prison size as a "prison management variable" because it is assumed that decision makers at the state level can consciously decide to build or close facilities or transfer prisoners from one unit to another in order to maintain proper housing levels. When one considers the local jail, the size of the institution becomes more correctly an "importation" variable because the inmate population reflects the demographics of a geographically defined area. Densely populated counties such as Harris County (Houston) or Dallas County (Dallas) will obviously have jails with large inmate populations, whereas sparsely populated counties will have jails with few inmates regardless of managerial preference. Management variables must be defined in the context of their occurrence. For the purpose of this study, emphasis is placed on the relationship of factors rather than on some theoretical model concocted from the manipulation of variables.

METHOD

An extensive survey including 116 topics was sent to a total of 241 Texas jail administrators (Kellar et al., 2001). Responses were returned from 145 or 60.2% of those institutions polled. This return rate equaled 66.7% (4 of 6) of institutions with more than 1,000 inmates, 40.0% (6 of 15) of jails with 500 to 999 inmates, 75.0% (12 of 16) of those with 250 to 499 inmates, 53.0% (35 of 66) of those with 50 to 249 inmates, and 63.8% (88 of 138) of those with 1 to 49 inmates. Although reasonably representative of the state at large, because of the large proportion of small jails in Texas, responses reflect a strong representation of those institutions with relatively few inmates. Among those 145 returned surveys, some respondents did not answer certain key questions; therefore, those responses were dropped and the total sample size was adjusted downward to 138. The number of inmates in each facility was retrieved from official records and monthly population reports maintained by the Texas Commission on Jail Standards (2001) and arranged in a database format to correspond with the responses reported by local manag-

ers. The effects of several variables on inmate-on-staff and inmate-on-inmate assaults were investigated. Entries from the survey were compiled into two dependent and nine independent variables. Logistic regressions were used to analyze the relationships among input variables and jail assaults. To present a manageable research design, the authors concentrated on three formal hypotheses and treated variables "years in operation," "jail structural type," "male jail staff," and "White jail staff" as controls.

DEPENDENT VARIABLES

Inmate-on-staff assault in Texas jails (question 99a in Kellar et al., 2001) and inmate-on-inmate assault in Texas jails (question 100a) were treated as dependent variables. These responses estimated the number of serious assaults that occurred from January 1, 2000, through December 31, 2000. The authors purposely requested "serious" assaults so that administrators would refrain from reporting minor incidents or mere arguments among inmates or inmates and staff. The responses were dummy coded (1 = yes and 0 = no).

INDEPENDENT VARIABLES

Two variables were used to measure the effects of the managerial model. The first was the Correction Philosophy Index from four entries designed to measure the institution's prevailing corrections philosophy (Kellar et al., 2001). These entries included a rating for each of the following statements:

1. Jail should be a punishing experience for inmates.
2. Jail should keep dangerous criminals off the street.
3. Jail should encourage inmates to obey the law.
4. Jail should be used to rehabilitate inmates.

In the survey, respondents were asked to choose answers from a 5-point Likert-type scale in each of the entries from *strongly agree* to *strongly disagree*. Researchers summed responses in the first two questions from 1 to 5 and for questions 3 and 4, from 5 to 1. Recorded values were then added for each item to obtain an index ranging from 4 to 20. The higher the index, the more likely the institution reflected a rehabilitative philosophy.

Some research suggests that when inmates are involved in rehabilitative programs, the rate of violence against both staff and other inmates will be reduced (Burlaw et al., 1994; Gaes & McGuire, 1985; McCorkle et al., 1995). By structuring the rehabilitative index, it was possible to evaluate the

relationship between an institution's commitment to inmate rehabilitative programs and inmate violence.

The second managerial model variable considered was the average monthly pay of corrections officers. Labor unions and employee advocacy groups have long maintained that underpaid officers are less professional and less effective than those who receive a more liberal compensation. Historically, jail officers have been grossly underpaid (Clear & Cole, 1997; National Sheriff's Association, 1982; Zupan, 2002) and the resulting deficit in professionalism may be related to inmate violence. The average monthly pay of an experienced corrections officer was chosen as an input variable. The question was designed to test whether there was a discernible relationship between officer pay and inmate violence. Maximum monthly pay before deductions made up an ordinal level of measurement.

Three variables were developed to test the effects of the importation model. The first was the proportion of inmates in a facility classed as maximum security. Unlike many state prison facilities, the typical local jail houses a variety of inmates from risk categories including minimum, medium, and maximum custody. The survey asked administrators to estimate the percentage of maximum security inmates housed in each facility. A number of studies (Alpert, 1979; American Correctional Association, 1993; Brown, 1990) concluded that an individual's security classification and the severity of offense for which an individual is incarcerated are important determinants of whether a prisoner will demonstrate assaultive behavior. It therefore stands to reason that jails with more maximum security inmates are more likely to report inmate assaults than those with lower proportions of maximum security inmates. To test this hypothesis, researchers created an interval variable that indicates the percentage of maximum security inmates reported by each administrator.

A second measure of the importation model was the total inmate population of the institution. The study used inmate population within each jail as of April 1, 2001 (Texas Commission on Jail Standards, 2001), as a variable to estimate such effects. Jail populations constantly fluctuate, but the recorded population on a specific date represents a reasonable estimate of the actual number of inmates housed at any time during the calendar year. This factor may be treated as an importation variable because it represents a demographic density associated with a particular county as opposed to a managerial or policy result that can be adjusted administratively (as may be the case in state prison populations). Studies by McCorkle et al. (1995), California Finance Department (1975), and Camp and Camp (2000) suggest that relationships do exist between size of an institution and rates of inmate violence. If one considers the local jail population as a representation of community

urbanization, it is reasonable to hypothesize that city criminals are more likely to engage in violence than are rural criminals. A sociological basis for this hypothesis, in one form or another, can be traced to the "Chicago School" almost a century ago (Park, 1915; Park, Burgess, & McKenzie, 1925; Wirth, 1925). Recent Bureau of Justice Statistics (2000) crime reports indicate that the average urban violent crime rate from 1993 to 1998 was 74% higher than the rural violent crime rate and 34% higher than the suburban violent crime rate. One would not be surprised to find that inmates in urban jails are more violent than those in rural jails. Population values were entered as an ordinal variable.

A final importation variable was made up of the jail region within the state. The State of Texas was divided into six geographic zones to determine if trends in one part of the state were consistent with those in other locations, thereby creating a cultural variable. The regions included 44 counties in mostly rural East Texas; the Dallas/Fort Worth "Metroplex," the area including the 10 suburban counties contiguous to and including the two largest cities in the zone; the Greater Houston/Galveston/Beaumont area including Harris, Galveston, and Jefferson counties and those suburban counties contiguous to them; the 44 counties in the geographic center of the state or Central Texas; South Texas, including the 52 counties with large Hispanic populations and traditions along the Rio Grande River from Brownsville to El Paso; and West Texas, including the 92 counties of the Texas "Panhandle" and "High Plains" regions. The geographic regions were coded as a binary variable. The Greater Houston/Galveston/Beaumont and the Dallas/Fort Worth areas were coded as "metropolitan," whereas the remaining regions were coded as "non-metropolitan." It was therefore possible to divide jails into two types of regions: metropolitan and non-metropolitan.

CONTROL VARIABLES

To further clarify the relationship between the independent and dependent variables, four control variables were used. These variables included jail structural type, age of facility, percentage of male jail staff, and percentage of White staff.

Jail structural type. During the late 1970s, architects began designing jails to encourage more interaction between guards and inmates to reduce inmate violence and create a safer environment (Wener, Frazier, & Farbstein, 1987). This led to an "open concept" that placed the corrections officer alongside inmates in the designated living areas in what became known as "direct supervision" jails. Unlike traditional "linear" jails, direct supervision facili-

ties enable the officer to view the inmates without obstructions, and unlike the "podular remote model," the officer has direct physical contact with the inmates (Nelson, 1993). Some researchers conclude that direct supervision jails have been shown to substantially reduce inmate assaults (Farbstein, Liebert, & Sigurdson, 1996; O'Toole, 1982).

Texas jail managers were asked to classify their facility as "linear," "podular remote," "direct supervision," or "some combination of the preceding" (Kellar et al., 2001). An inmate supervision type variable was thereby established to separate assaults by building design. Linear building design was coded 1, whereas all nonlinear building design was coded 0.

Age of facility. Historically, many local jails are made up of structures that have been in continuous use for decades. By examining the age of the facility as it corresponds to inmate assaults, it was possible to evaluate the overall effectiveness of the facility as it affects violence including enhanced staff communication, visual surveillance, individual comfort, and efficiency of operations.

The percentage of male staff. Some authorities believe that women corrections officers are as well suited, if not better suited, than men to supervise male inmates because they often use alternatives to the physical control of inmates (Tewksbury, 1999; Zimmer, 1986). Females tend to "talk through" controversies that might elicit force to resolve controversy (Grana, 2002). Respondents reported number of employees by position and gender so it was possible to ascertain the relative number of female corrections officers for each jail. Officer gender cannot easily be categorized as a management variable even though hiring practices are traditionally viewed as managerial prerogatives. Case law as well as cultural norms influence the available employment pool from which all corrections officers are drawn. It is interesting that smaller jails tend to employ a greater proportion of females than do larger jails (Kellar et al., 2001, p. 41). The proportion of female corrections officers was entered as an ordinal value.

The percentage of White staff. The race of corrections officers has been suggested as a factor in explaining inmate violence (Irwin, 1977). According to this logic, officers of the same ethnicity as many of the inmates tend to have a clearer cultural understanding of the injustices inherent in prisons and provide role models for the prisoner, which in turn reduces violence. A review of literature for this particular variable yields mixed results. Fisher-Giorlando and Jiang (2000) found no significant differences in the volume of disciplinary reports written by Black or White officers, but McCorkle et al.

(1995) concluded that higher White to Black staffing was associated with higher rates of inmate violence.

HYPOTHESES

Three research hypotheses were developed to define the relationship of independent variables to inmate assaults as discussed above. To test each hypothesis, zero-order correlations were calculated to examine possible occurrences of multicollinearity. Next, multiple logistic regression was applied to predict the likelihood of assaults, both inmate-on-staff and inmate-on-inmate. Research hypotheses of the study included the following:

1. that the incidence of inmate assaults would be less likely in those jurisdictions with a higher rehabilitative index;
2. that metropolitan areas would have more assaults than non-metropolitan areas; and
3. that assaults would be more prevalent in those jurisdictions reporting a higher proportion of maximum security inmates.

FINDINGS

SAMPLE CHARACTERISTICS

Data in Table 1 represent the statewide sample ($N = 138$). Note that 15% of Texas jails reported serious inmate-on-staff incidents in the calendar year 2000, whereas 30% of Texas jails reported serious inmate-on-inmate assaults. The mean rehabilitative index (11.67) suggests that, on average, jail administrators lean toward the rehabilitative position. The daily population for each Texas jail varies from 0 to 7,097 inmates. On average, each Texas jail accommodates about 237 inmates on a given day. About 22% of Texas jail inmates are classed as maximum security. The average jail facility has been in operation for 27.4 years. Most jails (91%) are located in non-metropolitan regions. Approximately 57% of jail employees are male and 71% are White. More than half (51.4%) of the Texas jail facilities are linear in design.

ZERO-ORDER CORRELATION

Zero-order correlation is a method for diagnosing multicollinearity, an important relationship in multivariate analysis. Coefficients may range from +1.0 (perfect positive correlation) to -1.0 (perfect negative correlation). Although there is no statistical rule to establish a "hard and fast" criterion for

TABLE 1: Variables and Measures (N = 138)

Concept	Variable	Level of Measurement	Mean	SD
Dependent variables	inmate-on-staff assault	0 = no 1 = yes	.15	.36
	inmate-on-inmate assault	0 = no 1 = yes	.30	.46
Independent variables				
Managerial model				
	Correction Philosophy Index	ordinal (6-16)	11.67	1.76
	monthly salary	interval, in dollars	1830	512.66
Importation model				
	jail size	interval, in # of inmates	237	852
	jail region	0 = non-metropolitan 1 = metropolitan	.09	.28
	max. security inmates	interval, in %	21.77	17.51
Control variables				
	jail structural type	0 = nonlinear 1 = linear	.51	.50
	years in operation	interval, in year	27.40	25.26
	male jail staff	interval, in %	57.49	21.59
	White jail staff	interval, in %	71.26	26.06

multicollinearity, convention suggests that correlations above .5 present potential instances wherein strong relationships between independent variables may lead to misrepresentations of relationships with dependent variables. Tables 2 and 3 represent the zero-correlation matrix of variables associated with inmate-on-staff and inmate-on-inmate assault, respectively. Note that jail region and monthly salary are exceptionally correlated (.514). The authors have interpreted these data to infer that monthly salary is logically a function of jail region rather than inmate assaults being a function of officer pay. To suggest that paying officers less will result in reduced inmate violence cannot be logically defended; however, jails located in metropolitan regions are more likely to both pay higher salaries and to have a greater likelihood of inmate-on-inmate violence. Thus, in the logistic models, the variable Monthly Salary was excluded. Further, the variable Jail Size was not included because it also was highly correlated with Jail Region (.526).

TABLE 2: Zero-Order Correlation Coefficients of Inmate-on-Staff Assault Model

	Y1	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y1 Inmate-on-staff	1.000									
X1 Rehabilitation Index	-.059	1.000								
X2 Monthly salary	.144	-.092	1.000							
X3 Jail structural type	-.002	-.043	-.009	1.000						
X4 Jail size	.081	-.083	.498**	.116	1.000					
X5 Max. security inmates	.163	.002	.123	.105	-.079	1.000				
X6 Years in operation	-.033	.158	-.175*	.019	.070	-.125	1.000			
X7 Jail region	.012	-.162	.514**	-.062	.526**	-.080	-.070	1.000		
X8 Male jail staff	.134	-.094	.281**	-.033	.117	.027	-.200*	.064	1.000	
X9 White jail staff	-.102	.165	-.072	-.135	-.154	.047	.078	-.043	-.164	1.000

* Significant at .05 level. ** Significant at .01 level.

TABLE 3: Zero-Order Correlation Coefficients of Inmate-on-Inmate Assault Model

	Y1	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y1 Inmate-on-inmate	1.000									
X1 Rehabilitation Index	.033	1.000								
X2 Monthly salary	.467**	-.092	1.000							
X3 Jail structural type	.077	-.043	-.009	1.000						
X4 Jail size	.175*	-.083	.498**	.116	1.000					
X5 Max. security inmates	.174*	.002	.123	.105	-.079	1.000				
X6 Years in operation	-.205*	.158	-.175*	.019	.070	-.125	1.000			
X7 Jail region	.243**	-.162	.514**	-.062	.526**	-.080	-.070	1.000		
X8 Male jail staff	.186*	-.094	.281**	-.033	.117	.027	-.200*	.064	1.000	
X9 White jail staff	-.121	.165	-.072	-.135	-.154	.047	.078	-.043	-.164	1.000

* Significant at .05 level. ** Significant at .01 level.

TABLE 4: Logistic Model of Inmate-on-Staff Assault

<i>Variable</i>	<i>B</i>	<i>Wald</i>	<i>Exp(b)</i>
Correction Philosophy Index	-.053	.134	.948
Jail structural type	-.094	.130	.910
Max. security inmates	.026	3.908*	1.026
Years in operation	.003	.075	1.003
Jail region	.193	.052	1.213
Male jail staff	.017	1.754	1.017
White jail staff	-.011	1.237	.989
Constant	-1.868	.674	

Note: Chi-square = 7.466; *df* = 7; *N* = 138.

* $\alpha \leq .05$.

LOGISTIC MODEL: INMATE-ON-STAFF ASSAULTS

Table 4 presents the logistic model of inmate-on-staff assaults in jails. Logistic regression is appropriate with dichotomous dependent variables because it uses the maximum likelihood method to estimate the parameters in the sample population. In this model, the chi-square statistic (7.466; *df* = 7) is not significant at the .05 level. This finding suggests that the model does not contribute to an understanding of the issue, inmate-on-staff assaults. However, the Wald statistic indicates that the percentage of maximum security inmates in a specific jail is significantly related to inmate-on-staff assaults at the .05 level. *Exp(b)* presents the odds ratio, which indicates the odds change when a particular independent variable increases by one unit. Findings suggest that a higher proportion of maximum security inmates are more likely to be associated with inmate-on-staff assaults.

LOGISTIC MODEL: INMATE-ON-INMATE ASSAULTS

Table 5 presents the logistic model of inmate-on-inmate assaults in the jail. In this model, the chi-square statistic (26.658; *df* = 7) is significant at the critical level of .01. This finding suggests that the model contributes significantly to an understanding of the issue of inmate-on-inmate assaults in jails. As the data in Table 5 show, two independent variables—percentage of maximum security inmates and jail region—are significant; the first at the .05 level and the latter at the .01 level, respectively. The *exp(b)* presents the odds ratio, which indicates the odds change when a particular independent variable increases by one unit. *Exp(b)* findings indicate that jails located in urban areas and those with a higher percentage of maximum security inmates are more likely to experience assaults by inmates on other inmates.

TABLE 5: Logistic Model of Inmate-on-Inmate Assault

<i>Variable</i>	<i>B</i>	<i>Wald</i>	<i>Exp(b)</i>
Correction Philosophy Index	.214	2.794	1.239
Jail structural type	.250	1.273	1.284
Max. security inmates	.023	4.107*	1.023
Years in operation	-.021	3.709	.979
Jail region	2.077	8.576**	7.980
Male jail staff	.021	3.564	1.021
White jail staff	-.010	1.501	.990
Constant	-4.880	6.125	

Note: Chi-square = 26.658**; *df* = 7; *N* = 138.

* $\alpha \leq .05$.

** $\alpha \leq .01$.

CONCLUSIONS AND DISCUSSION

Hypothesis 1, "that the incidence of inmate assaults would be less likely in those jurisdictions with a higher rehabilitative index," was rejected. Both inmate-on-staff and inmate-on-inmate models indicated little if any relationship between general rehabilitative philosophy and inmate assaults. If a more positive attitude toward inmate rehabilitation is more conducive to non-assaultive behavior, such influence may be counterbalanced by increased opportunities for inmates to engage in assaultive behavior when more programs are available. It is also possible that those jail administrations espousing a more punitive viewpoint also employ more restrictive managerial controls and thereby reduce assaultive acts.

Hypothesis 2, "that metropolitan areas would have more assaults than non-metropolitan areas," produced a strong relationship with inmate-on-inmate assaults but no discernible relationship with inmate-on-staff assaults. It is noteworthy that the zero-order correlation coefficient between jail region and inmate-on-inmate assaults was statistically significant at the .01 level. This suggests that there is a relatively strong relationship between urban jails and increased assaults on other inmates. However, the relationships did not hold for inmate-on-staff assaults. This may be because larger jails typically exact severe punishments on those inmates who assault staff. If this postulate is true, the managerial variable of prevention may offset the importation factor of otherwise increased assaults.

Hypothesis 3, "that assaults would be more prevalent in those jurisdictions reporting a higher proportion of maximum security inmates," was confirmed by comparisons of the proportionality of maximum security inmates with inmate-on-staff assaults and with inmate-on-inmate assaults. Maxi-

imum security inmates are more likely to be involved in assaultive behavior than lower risk inmates. These findings reinforce the necessity of viable classification systems in order to provide safety for staff and inmates alike. Inmate classification is especially difficult in local jails given the transient nature of the population and the time restraints necessary to properly complete the complex process.

Like most multivariate studies of human behavior, this attempt to investigate can be characterized as yielding a certain degree of mixed results. One view supports the importation model in that one variable, the proportion of inmates classified as maximum security, was statistically significant at the .05 confidence interval as it related to inmate-on-staff assaults. A similar relationship was found between the proportion of maximum security inmates and inmate-on-inmate assaults ($\alpha \leq .05$). The study indicated that inmate-on-inmate violence was more likely in metropolitan areas than in non-metropolitan jails. Likewise, this finding seemed to confirm the importation model approach but the evidence was not overwhelming.

In addition, two control variables—years in operation and male jail staff—were not significant in the logistic models, but zero-order correlations indicated that both were correlated to inmate-on-inmate assaults at the .05 level. The correlation between age of a facility and inmate-on-inmate assaults was negative. That is, the newer the facility, the more likely inmate-on-inmate assaults occur. This may be explained by noting that newer facilities often require complete changes in operations, whereas older facilities are more stable relative to the administration of routine operations. Therefore, older facilities seem to provide an atmosphere more conducive to tranquility and overall institutional stability accompanied by a resulting reduction in assaultive behaviors.

The correlation between the percentage of male jail staff and inmate-on-inmate assaults was positive. That is, the higher the percentage of male staff in a unit, the more likely inmate-on-inmate assaults became. On its surface, this finding seems to support the proposition that female officer supervisors are more nurturing and less likely to elicit violent responses from their charges (Grana, 2002; Tewksbury, 1999). Note, however, that the relationship did not result in a finding of statistical significance in the full logistic model.

Other variables such as racial breakdown of staff, type of facility design structure, and rehabilitative philosophy seemed to have only marginal, if any, effects on inmate assaults. Further research is recommended concerning these issues. It may well be that these and other forces interact to shape assaultive trends in jails, but more precise and sensitive analytical modeling techniques and additional research should be applied.

In conclusion, the study seems to support the importation model approach, but some factors suggest influence by managerial model variables. The deprivation model could not be adequately examined given the nature of the variables. Conceptually, the absence of deprivation variables may be explained by the fact that inmates spend shorter times in county jails and those variables associated with deprivation theory do not have time to emerge.

Local jails represent a unique challenge. Although this study is in no way a definitive work, it emphasizes the complexity posed by this important component of the justice system. It is hoped that future endeavors will address the questions initiated by this effort.

REFERENCES

- Alpert, G. P. (1979). Patterns of change in prisonization: A longitudinal analysis. *Criminal Justice and Behavior*, 6(2), 159-173.
- American Correctional Association. (1993). *Gangs in correctional facilities: A national assessment*. Laurel, MD: Author.
- Atlas, R. (1983). Crime site selection for assaults in four Florida prisons. *The Prison Journal*, 58(1), 59-72.
- Brown, G. C. (1990). *Violence in California prisons: A test of the importation and deprivation models*. Doctoral dissertation, University of California at Irvine.
- Bureau of Justice Statistics. (2000). *National crime victimization survey special report: Urban, suburban and rural victimization, 1993-1998*. Washington, DC: Author.
- Burlew, K., Dinitz, S., Griffin, B., et al. (1994). *Final report of the (Ohio) governor's select committee on corrections*. Columbus: State of Ohio.
- California Finance Department. (1975). *Prison violence in California: Issues & alternatives*. Sacramento, CA: Author.
- Camp, C., & Camp, G. (2000). *Corrections yearbook 2000: Jails*. Middletown, CT: Criminal Justice Institute.
- Cao, L., Zhao, J., & Van Dine, S. (1997). Prison disciplinary tickets: A test of the deprivation and importation models. *Journal of Criminal Justice*, 25(2), 103-113.
- Clear, T., & Cole, G. (1997). *American corrections*. Belmont, CA: Wadsworth.
- Clemmer, D. (1958). *The prison community*. New York: Holt, Rinehart and Winston.
- Dillio, J. (1987). *Governing prisons*. New York: Free Press.
- Farbstein, J., Liebert, D., & Sigurdson, H. (1996). *Audits of podular direct supervision jails*. Longmont, CO: U.S. Department of Justice, National Institute of Corrections, Jails Division.
- Fisher-Giorlando, M., & Jiang, S. (2000). Race and disciplinary reports: An empirical study of correctional officers. *Sociological Spectrum*, 20(2), 169.
- Fry, L. J., & Frese, W. (1992). Bringing the convict back in: An ecological approach to inmate adaptations. *Journal of Criminal Justice*, 20(4), 355.
- Gaes, G. G., & McGuire, W. J. (1985). Prison violence: The contribution of crowding versus other determinants of prison assault rates. *Journal of Research in Crime and Delinquency*, 22, 41.
- Gaines, L., Kaune, M., & Miller, L. (2000). *Criminal justice in action*. Belmont, CA: Wadsworth.
- Grana, S. D. (2002). *Women in justice*. Boston: Allyn and Bacon.
- Harer, M. D., & Steffensmeier, D. J. (1996). Race and prison violence. *Criminology*, 34(3), 323.

- Irwin, J. (1977). The changing structure of men's prisons. In D. Greenberg (Ed.), *Corrections and punishment* (pp. 21-40). Beverly Hills, CA: Sage.
- Irwin, J., & Cressey, D. (1962). Thieves, convicts and the inmate culture. *Social Problems, 10*, 142-155.
- Kellar, M., Jaris, M., & Manboah-Roxin, J. (2001). *Texas jail survey 2001: A status report*. Austin: Texas Commission on Jail Standards.
- Kennedy, T. D. (1986). Trends in inmate classification: A status report of two computerized psychometric approaches. *Criminal Justice and Behavior, 13*(2), 165.
- Kerle, K. E., & Ford, F. R. (1982). *The state of our nation's jails*. Washington, DC: National Sheriff's Association.
- LaVigne, N. (1994). Rational choice and inmate disputes over phone use on Riker's Island. In R. V. Clark (Ed.), *Crime prevention studies* (Vol. 3, pp. 109-126). Monsey, NY: Criminal Justice Press.
- Leeke, W., & Mohn, H. (1986). Violent offenders: AIMS and unit management maintain control. *Corrections Today, 48*(3), 22.
- Mays, G. L., & Winfree, L. T. (2002). *Contemporary corrections*. Belmont, CA: Wadsworth.
- McCorkle, R. C., Miethe, T. D., & Drass, K. A. (1995). The roots of prison violence: A test of the deprivation, management and "not so total" institution models. *Crime and Delinquency, 41*(3), 317-331.
- Memory, J. M., Guo, G., & Parker, K. (1999). Comparing disciplinary infraction rates of North Carolina fair sentencing and structured sentencing inmates: A natural experiment. *The Prison Journal, 79*(1), 45-71.
- Moynahan, J., & Stewart, E. (1980). *The American jail: Its development and growth*. Chicago: Nelson-Hall.
- National Sheriff's Association. (1982). *The state of our nation's jails*. Washington, DC: Author.
- Nelson, W. R. (1993). *New generation jails, podular direct supervision jails*. Longmont, CO: U.S. Department of Justice, National Institute of Corrections, Jails Division.
- O'Toole, M. (1982). *New generation jail survey: Comparative data from 1981 & 1982 on assaults & escapes*. Boulder, CO: U.S. Department of Justice, National Institute of Corrections, Jails Division.
- O'Toole, M. (1999). *Jails and prisons: The numbers say they are more different than generally assumed*. Retrieved from <http://www.corrections.com/ajal>
- Park, R. (1915). The city: Suggestions for the investigation of behavior in the city environment. *American Journal of Sociology, 20*, 579.
- Park, R., Burgess, E., & McKenzie, R. (1925). *The city*. Chicago: University of Chicago Press.
- Paterline, B. A., & Peterson, D. M. (1999). Structural and social psychological determinants of prisonization. *Journal of Criminal Justice, 27*(5), 427-441.
- Peak, K. J. (2001). *Justice administration: Police, courts and corrections management* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Petersen, R. D. (1997). *Inmate subcultures of female youth: An examination of social systems and gang behavior* (Criminal Justice Abstracts, No. 11742). Ann Arbor: University of Michigan.
- Poole, E. D., & Regoli, R. M. (1983). Violence in juvenile institutions: A comparative study. *Criminology, 21*(2), 213.
- Sechrest, D. K. (1991). The effects of density on jail assaults. *Journal of Criminal Justice, 19*(3), 211.
- Sorensen, J., Wrinkle, R., & Gutierrez, A. (1998). Patterns of rule-violating behaviors and adjustment to incarceration among murderers. *The Prison Journal, 78*(3), 222-231.
- Sykes, G. (1958). *The society of captives*. Princeton, NJ: Princeton University Press.

- Tewksbury, R. (1999). Should female corrections officers be used in male institutions? In C. B. Fields (Ed.), *Controversial issues in corrections* (pp. 187-193). Boston: Allyn & Bacon.
- Texas Commission on Jail Standards. (2001). *Monthly inmate population report for April, 2001*. Austin: Author.
- Wener, R., Frazier, F. W., & Farbstein, J. (1987). Direct supervision of correctional institutions. In *Podular direct supervision jails, 1993*. Longmont, CO: U.S. Department of Labor, National Institute of Corrections, Jails Division.
- Wilkinson, R. A., Austin, C. P., Baugh, S., et al. (1994). Stemming the violence. *Corrections Today*, 56(5), 64.
- Wirth, L. (1925). *The ghetto*. Chicago: University of Chicago Press.
- Wolf, S., Freinek, W. R., & Shaffer, J. W. (1996). Frequency and severity of rule infractions as criteria of prison maladjustment. *Journal of Clinical Psychology*, 22, 244-247.
- Zimmer, L. E. (1986). *Women guarding men*. Chicago: University of Chicago Press.
- Zingraff, M. T. (1980). Inmate assimilation: A comparison of male and female delinquents. *Criminal Justice and Behavior*, 7(3), 275-292.
- Zupan, L. (2002). The persistent problems plaguing modern jails. In T. Gray (Ed.), *Exploring corrections* (pp. 37-63). Boston: Allyn and Bacon.

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