ASSAULT, BATTERY AND INJURY OF CORRECTIONAL OFFICERS BY INMATES: AN OCCUPATIONAL HEALTH STUDY

by

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ASSAULT, BATTERY AND INJURY OF CORRECTIONAL OFFICERS BY INMATES: AN OCCUPATIONAL HEALTH STUDY

Violence in the workplace is a major threat to the occupational health of correctional officers. To document the extent of correctional officer assault, battery, and injury and explore factors that my contribute to the involvement and injury of officers in physical confrontations with inmates, the State of Maryland's Division of Correction (2435 budgeted officer positions) was studied. Using a prospective, cohort design, incidence rates for officer involvement in battery episodes and subsequent injury were established. Officer, inmate, environmental and situational variables were explored, with predictive models determined using stepwise multiple regression analysis.

Incidence rates for battery and injury of COs by inmates were 65.3 and 16.8 per 100,000 workhours, respectively. Officer age, race, sex, rank, length of employment, type of institution, height, weight, past history of battery injury, coping strategies and behavioral intentions relevant to conflict with inmates were all found to be predictive of involvement in battery episodes (R square = .12) and subsequent injury (R square = .10). Site, time, inmate census, officer and inmate weapons, precipitating behaviors, methods of control, substance abuse, and inmate injury were found to predict officer injury (R square = .45). All findings were significant at p = .05 or less.

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Maryland Classified Employees Association) and the Division of Correction management was instrumental in gaining the support of all parties and most especially the line correctional officer. Ed was central to the success of the study. My respect and appreciation of Ed is impossible to fully express.

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Chapter 1

Introduction

The American public has become increasingly alarmed with rising rates of violent crimes, especially during the last ten years. In response, legislators and the judiciary have responded by imposing longer inmate sentences and granting fewer felons parole or probation. As a consequence, prison crowding has become acute nationwide, with rates of intra-prison violence also perceived by experts to be increasing.

Many factors are thought to be related to rising rates of prison violence. Along with a shortage of institutional space, other resources within the correctional system have been severely limited. Work assignments, training and educational opportunities, and recreational facilities are unavailable or severely restricted for many inmates. Institutional staffing by well-trained correctional personnel may be inadequate. Boredom and unstructured inmate time are thought to be adverse, contributory outcomes related to prison violence.

In an effort to understand and control aggression, violence, and violent crimes, research efforts have historically focused on the perpetrator and his/her environment. Recent studies have broadened to include the victim and the sociological context of the encounter. Relatively little attention has been directed at employee groups who must deal with violent individuals or the consequences of violent acts in the course of their jobs. Studies that have examined violence in the workplace have largely concerned police officers or personnel working in psychiatric facilities. Rates of intra-prison violence involving staff have not been well documented. Definitive knowledge of staff injuries

resulting from violent encounters with inmates is largely unavailable. Yet the rates of violent acts in prisons are felt to be 100 to 200 times higher than in the com-munity at large (Brodsky, et al., 1979).

1.1 Purpose: In response to the current and projected increases in prison populations, scare material and personnel resources, and rising rates of intra-institutional violence, this study has addressed the problem of assault and battery encounters between correctional officers and inmates and resulting officer injuries. The study's purpose was to explore the occurrence of assault, battery, and injury of correctional officers by inmates, including determination of incident rates and risk factors.

Maryland's state prison system was chosen as the setting. With crowding in Maryland prisons in the top third nationwide for severity and with a wide diversity in prison architectural characteristics and environmental settings, Maryland's Division of Correction offered a rich opportunity to explore the importance of environmental, officer, and inmate variables with respect to the problem. Implications and recommendations generated by study findings will be discussed in relationship to Maryland specifically and, as applicable, to the nation in general.

1.2 Overview of Correctional Officer and Inmate Violence and Importance of the Problem: National data is available documenting the incidence of death among correctional officers resulting from violent encounters with inmates. Correctional officer (CO) mortality data is available for 1977 through 1981 via the Office of Justice Assistance, Research, and Statistics, Public Safety Officers' Benefits Program, U.S. Department of Justice. Data is incomplete for 1982 and 1983, with many

claims not yet processed. The yearly breakdown is as follows: 1977 - 8; 1978 - 12; 1979 - 11; 1980 - 8; 1981 - 9. Of the 48 deaths during this period, 83.3% occurred as a result of officer/inmate battery confrontations. Estimates by the Officers' Benefits Program staff indicate mortality figures reflect 90 to 95% of all "in the line of duty" deaths for correctional officers nationwide. These deaths were among an estimated federal, state, and local correctional officer work force of 70,000 in 1974 to 110,000 projected for 1985 (The National Manpower Survey of the Criminal Justice System, Volume Three: Corrections, 1978). Current figures based on a survey conducted by the American Correctional Association place the July 1, 1983 CO workforce for federal and state adult, long-term facilities at about 88,520. The average death rate for COs during 1977-1981 using 88,520 COs as a denominator is 10.85 per 100,000 officers.

In spite of relatively low mortality indicators when compared with other high risk occupational groups, estimates by experts of the morbidity experience of COs due to battery encounters with inmates are high (Toch, 1976; Brodsky, 1979; Dietz and Rada, 1980; Megargee, 1977b). With violent crimes nationwide for 1978 reported at 486.9 per 100,000 (Sourcebook, 1980), prison rates at 100 to 200 times higher would be at least 48.7 per 1000 inmates. These figures suggest a high risk of officer injuries from assault and battery encounters.

State and local data on assaults, batteries, and injuries to COs are incomplete and difficult to assess. The following figures are approximations drawn from Maryland's Division of Correction records. In calendar year 1980, there were 7900 inmates and 1432 budgeted correctional officer positions. Based on a standard 217 annual work days

per CO and not accounting for vacancies, there were 725 officers on duty per 24 hour period. Central records at division headquarters reveal that 182 officers were involved in physical conflict with inmates during 1980. That is, 127.1 COs per 1000 budgeted positions were involved in assault and/or battery episodes with inmates. There were from 46 to 65 injured officers. The upper figure (65) represents those officers described as being struck to specific body areas, but injuries are not specified. The lower number (46) is confirmed injuries. The conservative injury rate is 32.8 per 1000 budgeted positions. This data reflects only the most serious incidents occurring, with many altercations never being reported to division headquarters. More complete records are kept at each prison or community center.

Records surveyed at the Maryland House of Correction (MHC), a medium security prison in Jessup, reveal a much higher rate of assault and battery than is reflected in the Division statistics for 1980. During the first four months of 1981, there were about 50 assaults (verbal and physical threats) with and without battery reported per month involving a correctional staff of 345 (14.5 assaults per 100 COs per month). This estimate of episode frequency is based on tickets written by COs for inmate rule infractions and recorded in the adjustment team's log book. Officer injury rates were not obtained during this initial appraisal.

Additional estimates of the number of assaults and batteries involving COs come from union statistics. The American Federation of State, County, and Municipal Employees (AFSCME), Chapter 92, Local 1678 (Jessup Complex) reports two battery injuries per correctional officer over a five year work period. Frequency estimates are based on compensation received via the state's accident leave or Workers'

Compensation systems. Union officials also state that many strictly verbal assaults may not be reported. This may be due to the frequency of verbal assaults, the time required to complete the paper work, fears on the correctional officer's part of retaliation by inmates, or desire to avoid scrutiny of CO activities by superiors.

Maryland's Workers' Compensation Board reports that the Division of Correction experiences the second highest compensation rate among state employees, second only to the Department of Transportation. Note that both violence and non-violence related injuries are included as compensation cases. These figures also represent all Division employees, that is, management, clerical, and treatment personnel, as well as correctional officers. Furthermore, most officers utilize the accident leave system rather than Workers' Compensation when injured by an inmate. Lost work days via accident leave are not reported by the state, thereby preventing determination of CO assault and battery injury rates using this source. The CO battery injury incident rate prior to this study was not reported, with injury frequencies accounted for by the Division incomplete and of questionable accuracy. Without doubt, further exploration of assault, battery, and injury of correctional officers by inmates is needed.

1.3 Scope of the Study - The following thesis examines the correctional officer assault, battery, and injury problem in the context of officer, inmate, environmental, and situational variables. The following study objectives summarize the scope of this research paper:

* Identify the components of assault and battery episodes involving the COs, specifically the time, location, initiating event, subsequent actions, persons involved, CO and inmate roles,

method of control, weapons, involved inmate's housing area, inmate characteristics, episode outcome, and CO injuries.

* Determine the incidence of officer battery (with and without assault) and subsequent officer injury within Maryland's Division of Correction for the period November 1, 1982 through April 30, 1983.

* Analyze CO, inmate, environmental, and situational variables to determine those variables that are risk factors for CO involvement in assault and battery episodes with inmates and subsequent CO injury.

1.4 Limitations of the Study: Violence within prisons, including physical aggression involving correctional officers and inmates, is a function of multiple, contributory factors. Those factors that seem most relevant in developing a predictive model have been selected for study. Because of limited resources, situational restrictions, and legal considerations, certain variables and methods have been excluded.

No attempt has been made to definitively determine causation and assign guilt. As Hans Toch (1969) has noted, in assault, battery, and homicide-producing situations, both parties frequently contributed to the evolvement of violence. Violence seems to be a multi-causal phenomenon. Furthermore, without the capability of observing the violence in question, it was difficult to document guilt with absolute assuredness. Without direct observation, identification of all contributory behaviors and factors was not possible. Because of these limitations, some contributory variables relevant to the occurrence of violence and officer injury may have been overlooked.

Inmates were not interviewed as a method of further examining assault, battery, and injury-producing episodes involving inmates and COs. Inmate accounts of situations were frequently at variance with officer

accounts, as reflected by written records, especially in situations where these inmates have been charged with rule infractions. Concern about legal implications (i.e., the researcher being subpoenaed to testify was one reason for not interviewing inmates. Because "guilt" was not a major concern, the lack of inmate interviews may be partially justified. Additional insight into predisposing factors, inmate motivators, and officer control strategies may have been missed by not performing inmate interviews.

Exploration of inmates' psychological and sociological characteristics, though potentially adding to an understanding of prison violence, was not a study objective. Again, inmate variables relevant to the occurrence of assault, battery, and injury of COs by inmates may have gone undetected. Since most prior studies of non-collective violence have centered on the offender, an emphasis on the involved officer is justifiable. Potential rewards with the officer as a study focus were great. Furthermore, modifying offender psychological and sociological characteristics as a means of controlling or preventing violence has proven largely unsuccessful. Emphasis on contributory variables that may be more amenable to change is an appropriate approach.

Given the purpose and focus of the study, that is, correctional officer battery by inmates (with and without assault) and subsequent officer injury, the limitations noted above are not major deterrents or drawbacks to the study. Research objectives noted earlier are appropriate, in spite of study limitations.

1.5 ***Summary***: A traditional, causal research model emphasizing an aggressor and victim seems inadequate to the exploration of risk factors

and contributory variables relevant to assault, battery, and injury of officers by inmates. An approach that accounts for officer, inmate, situational, and environmental variables is in order. Theories helpful in the development of a predictive model will be discussed in the following chapter, along with the organizing conceptual framework -- Haddon's Injury Control Model. The study's major hypothesis will also be presented in Chapter 2. Chapter 3 will present the study's research design and the methods employed in meeting study objectives. Chapter 4 presents study findings and initial discussion of those findings. The summary, limitations, conclusions, and implications of the study are presented in Chapter 5, including a discussion of the support for the research hypothesis.

In summary, assault, battery, and injury of correctional officers by inmates occur with probably high frequency. Clearly, however, the extent of the problem, prior to this study, was unknown. The paucity of data on numbers of episodes, injuries, and seriousness of injuries, along with contributory or predictive factors, supports the importance of the study. Findings and recommendations of the study will have a direct bearing on interventions used to control this significant and costly occupational health problem -- assault, battery, and injury of correctional officers by inmates.

Chapter 2

Review of the Literature

Violence in correctional institutions and the impact of violent confrontations between correctional officers and inmates are recognized but poorly understood societal problems. The following chapter is a review of the literature having implications for the study of assault and battery of correctional officers in the context of their job. Emphasis is placed on those theories and approaches that support the exploration and identification of variables that may be associated with or contribute to the problem.

Section 2.1 of this chapter is a discussion of corrections, staff, prisons and inmates, and the correctional officer's work environment. Section 2.2 is an overview of theories of individual violence, with emphasis placed on those approaches most pertinent to the problem under study. Section 2.3 explores the literature relevant to correctional officer and inmate sociodemographic factors, identifying those variables that have been shown to be risk factors. Section 2.4 discusses the relationship of attitudes, beliefs, behavioral intentions and subsequent behaviors. Exploration of the possible associations among officer's attitudes, beliefs, and behavioral intentions regarding inmates and inmate/officer encounters and subsequent officer involvement in assault and battery episodes is included. Section 2.5 presents findings relevant to prison environmental and situation variables as they relate to prison violence. Risk factors, when known, will be identified. Section 2.6 will follow with a presentation of Haddon's Injury Control Model, its utility as a conceptual framework in the injury control field, and its applicability to

this study. Section 2.7 will conclude with a statement of the study's purposes and research hypothesis.

2.1 The Criminal Justice System, Correctional Staff, Prisons, and Inmates: The Correctional Officers' Work Environment

2.1.1 Historical Background: From an historical perspective, prisons and current methods of dealing with criminals are fairly recent societal developments. In non-literate societies, the tribe took action against individuals committing offenses against the entire social unit -- performing witchcraft, plundering tribal possessions, offending a god, or threatening tribal security. The tribal response was death or banishment, actions aimed at preventing similar acts. Crimes among or between families were handled by those groups, with tribe members looking on as observers. Blood feuds between families occurred at times as a consequence (Southerland and Cressey, 1970).

The feudal or kingship period characterizes most of Western man's civilized era. Society's perception of crime extended beyond acts against the group and included acts against the individual. Two goals predominated -- retribution and preventing recidivism. The church had a third goal -- reformation of the offender, usually labeled a heretic or non-Christian. During this period, civil and church courts arose, with backing by a central authority and, eventually, formal, written laws. Banishment and capital punishment continued to be frequently employed, but other methods such as imprisonment, mutilation, and torture were also used. A thief's hand might be severed as both a means of exacting retribution and preventing future thievery.

As the criminal justice system evolved through the Middle Ages and

into the Renaissance period, laws required offenders to compensate their victims. Eventually, royal and titled gentry began confiscating criminals' assets and exacting fines. Dungeons were frequently used prior to the adjudication of a case or in situations where the criminal could not or would not pay restitution. "The debtor was held as hostage rather than imprisoned as punishment" (Magargee, 1977b, p58). Pre-sentence incarceration frequently lasted months and even years. Imprisonment for political reasons was also an accepted procedure (Megargee, 1977b; Southerland and Cressy, 1970).

Consistency in sentencing frequently did not exist, except to say that punishments were often brutal and inhuman by today's standards. Megargee (1977b), in a summary of the correctional literature from the pre-eighteenth century, describes conditions as worse than those for kenneled or stabled animals. Violent criminals were not segregated from non-violent offenders. Children and women, at times, were housed with men. Nourishment, lighting, warmth, and sanitary conditions were usually totally inadequate. Under these conditions, bondage and slavery were usually more acceptable to the criminal than imprisonment. Rehabilitation of the offender was not a purpose of incarceration.

Little is known about prison guards during this period. That they participated in the abuse and torture of inmates and that their position was of low social status can be inferred from written accounts (Caldwell, 1965; Megargee, 1977b). A current stereotype of guards as sadistic or functioning only as "turnkeys" may stem in part to perceptions from this earlier time.

With the writings of Voltaire, Rousseau, and Montesquieu, rehabilitation and reformation of the criminal became state, as well as church,

goals. Punishment was justified as an instrument of rehabilitation. Viewing man as a rational creature behaving to maximize pleasure and minimize pain, punishment was felt to redirect unwanted behavior to minimize pain. Megargee (1977b, p60) stated, "Based on this principle, Cesare Beccaria, the founder of the so-called 'Classical School' of criminology, suggested that for each criminal act the pleasure derived from it should be calculated and a definite penalty assigned to it such that the pain would just exceed the pleasure." Beccaria also believed that to be effective, punishment must be certain and swift. Only if criminals were convinced that they would be disciplined, would punishment deter crime (Vold, 1958; Sutherland and Cressey, 1970; Megargee, 1977b).

The French Code of 1791 was based on Beccaria's proposals. Modification of the code to allow for consideration of extenuating circumstances and personal factors, such as lunacy, introduced the growing social consciousness that psychological and sociological factors are relevant to the disposition of criminals. Now known as the neoclassic school, this position became the basis for the modern Western criminal justice system (Sutherland and Cressey, 1970).

As humanitarian concerns increased during the eighteenth and nineteenth centuries, the use of capital punishment and exile declined, though punishment in other forms continued. Public humiliation, such as affixing the letter of the offense on the offender's clothes or branding it on his body (e.g., as in Hawthorne's The Scarlett Letter) was an accepted form of punishment. Imprisonment was used increasingly as the best method for dealing with crime. Based on the Rationalist philosophy of the day, the enforced solitude and restriction of imprisonment would

encourage the criminal to think about his behavior and conclude that crime was irrational, thereby turning him to socially approved behaviors. The Quakers of the Commonwealth of Pennsylvania are credited with initially espousing this position in the United States.

Imprisonment of criminals was also thought to deter others from similar actions, protect society from further offenses by the criminal, and exact retribution. As viewed then, imprisonment should meet all of society's objectives for dealing with offenders (Megargee, 1977b).

Unfortunately, imprisonment was not and has not been very successful in simultaneously accomplishing these multiple goals. In attempting to protect the public from inmates and the inmates from each other, an atmosphere of suspicion and distrust occurs. Tight security and surveillance are necessary to prevent abuses, victimizations, and escapes. In this setting, promoting inmate honesty and self-responsibility is contradictory to the prison milieu and to society's goal of security. Staff, including guards, are often expected to fulfill conflicting roles. How does one successfully counsel an individual, yet secure and punish him? Some sociologists would predict that if you treat an individual as if you distrust him, he will conform to your belief (Megargee, 1977b).

The Positivist School, founded in the late nineteenth century by Lombroso, postulated that prisons are poor settings for rehabilitating inmates, with little in prison environments conducive to positive behavior change, socialization, and maturation. Positivists proposed that the criminal and the circumstances of the crime should determine the sentence, specifying program type and content.

Megargee (1977b), Luckenbill and Sanders (1977), and other experts agree that simple incarceration, in the absence of programs providing

opportunities for productive skill acquisition and learning and a setting conducive to the acquisition of approved values and behaviors, will do little to modify subsequent criminal behavior. Prisons may breed hatred and alienation and become "a school for crime, an advanced education in criminal skills and techniques" (Megargee, 1977b, p63).

As the goals of corrections have broadened to include, at least at some level, modification of criminal behavior, and the criminal justice system has become more humane and concerned with human rights, prison architecture has changed. Replacing castle dungeons and holding areas were fortress-like structures of stone and mortar, circa fifteenth to nineteenth century. All common areas, such as small yards, were within the retaining or exterior walls of the building, if these areas existed at all. Housing areas contained multi-individual cells, natural lighting was limited to that admitted through small external windows, and climate control was largely lacking. These early prisons were built with public security and isolation of inmates in mind.

By the early twentieth century, new prisons were built that greatly expanded common areas, including settings for productive labor and recreation. Yards were larger, common inmate eating areas were included, and windows were enlarged, permitting increased natural lighting. Climate control improved. External building walls were still used to contain inmate living areas, but fencing began to be used as an alternative approach to containing and securing inmates. Inmate work crews were frequently in evidence under guard outside institutional confinement. In fact, inmate labor was often used to build prisons and the homes of the Warden and other prison staff. Prison farms and camps also began to appear during this period.

By the early 1960s, prison architecture had changed substantially. Multi-building institutions contained within security fences were built instead of the fortress-like stone, brick, and mortar structures. Facilities were planned to allow for inmate education, job training, and recreation. Open space and common areas increased greatly, dormitories became more numerous, and the general atmosphere was less punitive and threatening. With classification of facilities as minimum and pre-release security sites, security precautions loosened. Some of the hardware and trappings of the older institutions, such as the liberal use of metal bars, were no longer used (Giuseppi, 1975).

Though prison architecture in this country has changed markedly since the post-Revolutionary War period, most of the structures built between the late 1700's and today remain in use. Because of the growth in the inmate population and the relatively low legislative priority of prison construction, new facilities have, for the most part, accommodated expanding prison systems, rather than replacing antiquated and inadequate existing institutions. Many original colony states are still using prisons built in the nineteenth century.

During the latter part of the eighteenth century and the nineteenth century, the role of the correctional officer also changed to reflect the evolving philosophy of corrections and prisons. The "watchman" of earlier prison history, also known as the "keeper" or "keeper of the keys", became increasingly concerned with the inmates for whom he was responsible. Added to his role of keeping the peace and security of the institution was the notion that these officers were their "brothers' keepers" (Lombardo, 1981).

> "But the improvement in the character of the subordinate officers is extensive and important; and we trust the time is not distant, when a man must possess an established character, to be concerned even as an underkeeper in keeping his fellowmen" (Annual Reports of the Prison Discipline Society of Boston, Report No.4, 1924; extracted from Lombardo, 1981).

By the end of the nineteenth century, officers played a more active role in enforcing prison discipline, including punishing inmates for rule infractions. Accompanying this change in activity was the adoption of a quasi-military structure and nomenclature. The keeper became known as a subordinate officer or guard. During the twentieth century, the title prison guard and officer have gradually been replaced by correctional officer, though all three terms remain in use (Lombardo, 1981). Which title is used often reflects the speaker's or writer's perception of the position and, in many respects, the controversy surrounding modern correctional philosophy.

During the 1920's, the correctional component of the criminal justice field struggled for professionalization. Correctional philosophy and practices included a mixture of religion, medicine, and education. Lombardo quotes an observer from this period in describing a prison official as " . . . a moral instructor; the oracle of justice; a teacher in ethics" (from Stutsman, 1926, quoted in Lombardo, 1981). "Curing the criminal" was analogous in a professional role sense to the relationship of physician to patient. By the mid-1900's, distinctions were made between custodial and treatment staff, with the latter frequently viewed as the professional (Evans, 1954). Officers were seen in many cases as handling non-professional correctional functions such as manning the walls, supervising group inmate movements and activities, overseeing living units,

and maintaining the security of the institution (Task Force Report: Corrections, Mulvihill and Tumin, 1969). Debate continues over the correctional officer's position as professional or functionary and whether or not he properly has a role in inmate treatment.

The criminal justice system's attempts at rehabilitative program development and implementation during the twentieth century has had, at best, mixed success. The goals of retribution and deterrence are still perceived by society as more important than rehabilitation, in spite of the fact that 95% of incarcerated felons are eventually released into society again. While felons are imprisoned, the public feels safer and satisfied that these individuals are experiencing the punishment they deserve (Megargee, 1977b).

Many questions about our current criminal justice system remain. Does imprisonment, our primary method of dealing with convicted felons, deter crime, and of special interest, violent crime? (Current data tends to indicate that for many inmates and criminals it does not.) Can we successfully rehabilitate inmates? Again, what are the essential components? (Controversy continues to surround this issue.) Are prisons, as most are currently operated, the appropriate setting for rehabilitation? How do we minimize the risks to the public and to the correctional staff that work with criminals? What are society's alternatives to imprisonment? What should be the role(s) of the correctional officer? What occupational problems does he/she face?

2.1.2 America's Inmate Population: The inmate population in the United States numbers approximately 560,000 individuals. Most of these people are male (i.e., over 95%), young (i.e., under 30 years of age), of a

minority ethnic or racial group (i.e., black, Hispanic, American Indian), and from a low socioeconomic background. Many of these individuals have not completed high school and lack marketable job skills. Over the last two decades, the proportion of inmates classified as "minority" individuals has risen markedly, now accounting for two-thirds of all prisoners. In the last five years, the number of incarcerated felons has grown annually at a rate of 12%. About 90% of the 400,000 inmates housed in prisons are in state facilities; the remainder are kept in federal institutions. Those with sentences under one year (about 90,000) or awaiting trial (approximately 70,000) are detained in county or city jails (U.S. News and World Report, Nov. 1, 1982; Time, Sept. 13, 1982; Sourcebook, 1982).

The rates of violent crimes in the United States during the last five years (that is, 1978 through 1982 -- the most recent five year time period for which complete data is available), have increased by 21%. However, if one examines only the 1981 through 1982 trend, violent crime rates decreased 3.7%. Violent crimes accounted for in the Uniform Crime Reports (UCR, 1983) include murder, non-negligent manslaughter, forcible rape, robbery, and aggravated assault (with and without battery). The following table (Table 2.1) summarizes the rate patterns for each of these categories for 1973 through 1982, a ten year period. The downward trend since 1981 may be a reflection of an improving economy, a decrease in the unemployment rate, and an increased number of offenders who are incarcerated (UCR, 1983, pp40-2).

The following patterns were observed among violent offenders for 1982. In 1982, 74% of murders resulted in arrests. Murderers differ from other violent offenders in the proportion (i.e., 55%) of acts that involve victims who are relatives or acquaintances. Arguments preceded 41% of

Table 2.1

National Crime, Rate, and Percent Change

Offense	Estimated crime 1982		Percent change over 1981		Percent change over 1978		Percent change over 1973	
	Number	Rate per 100,000 inhabitants	Number	Rate per 100,000 inhabitants	Number	Rate per 100,000 inhabitants	Number	Rate per 100,000 inhabitants
Crime Index total[1]	12,857,200	5,553.1	−3.3	−4.3	+15.4	+8.7	+47.5	+33.7
Modified Crime Index total								
Violent crime	1,285,710	555.3	−2.7	−3.7	+21.2	+14.0	+46.8	+33.0
Property crime	11,571,500	4,997.8	−3.3	−4.3	+14.8	+8.1	+47.6	+33.7
violent crime: Murder	21,010	9.1	−6.7	−7.1	+7.4	+1.1	+7.0	−3.2
violent crime: Forcible rape	77,760	33.6	−4.6	−5.6	+15.8	+9.1	+51.3	+37.1
violent crime: Robbery	536,890	231.9	−6.5	−7.5	+28.7	+21.2	+39.7	+26.7
violent crime: Aggravated assault	650,040	280.8	+1.0	.....	+16.5	+9.7	+54.5	+40.0
property crime: Burglary	3,415,500	1,475.2	−8.7	−9.6	+10.0	+3.6	+33.1	+20.7
property crime: Larceny-theft	7,107,700	3,069.8	−.7	−1.7	+18.8	+11.9	+63.5	+48.2
property crime: Motor vehicle theft	1,048,300	452.8	−2.4	−3.4	+5.7	−.4	+12.9	+2.3
property crime: Arson								

[1]Because of rounding, offenses may not add to totals.

Regional Offense and Population Distribution, 1982

Region	Population	Crime Index total	Modified Crime Index total	Murder	Forcible rape	Robbery	Aggravated assault	Burglary	Larceny-theft	Motor vehicle theft	Arson
United States total[1]	100.0	100.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Northeastern States	21.4	20.4		17.4	16.2	32.1	19.6	19.8	18.5	29.6	
North Central States	25.5	22.7		18.3	20.2	17.8	18.7	21.5	24.3	21.6	
Southern States	33.7	32.8		45.0	37.0	27.7	38.8	34.4	32.7	26.7	
Western States	19.4	24.1		19.3	26.6	22.4	22.9	24.3	24.5	22.1	

[1]Because of rounding, percentages may not add to totals.

all murders, while 18% (and, perhaps, an additional 5%) resulted from felonious activities such as robbery. Of all persons arrested for murder in 1982, 43% were under 25 years of age. Blacks were disproportionately represented among murderers, comprising 50% of all those arrested. Whites accounted for 49% of the total and one percent were represented by other races. Seventeen percent of all murderers arrested were from an Hispanic ethnic origin, including 23% of juvenile arrestees (UCR, 1983, pp7-10).

Known forcible rapes, including attempted rapes, resulted in only a 51% arrest rate nationwide for 1980. Of those arrested, 52% were males under the age of 25, with those in the 18 to 22 year age group accounting for 27% of the total. Fifty percent of those arrested were black, 49% were white, 11% were Hispanic, and one percent comprised all other races (UCR, 1983, p14).

Robbery, the act of stealing money through force or the threat of force, often involves personal injury of the victim. Only 25% of robbery incidents occurring in 1982 resulted in an arrest. Firearms were used in 40% of robberies, 37% of episodes involved strong-arm tactics, 14% were committed with knives or cutting weapons, and the remaining 9% with other weapons. During 1982, 69% of all robbers arrested were under 25 years of age, 49% were under 21, and 26% were under 18. Males comprised 93% of arrestees. Blacks accounted for 61% of those arrested, 38% were white, and 13% were from an Hispanic ethnic group (UCR, 1983, p18).

Aggravated assault, "an unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury . . . including attempts" (UCR, 1983, p20), is the last major offense classified

in the Uniform Crime Reports as a violent offense. In 1982, 22% of these assaults were committed with firearms, 23% with knives or other cutting weapons, 28% with blunt objects or other weapons, and the remaining 17% with bodily weapons such as fists, hands, and feet. Approximately 60% of aggravated assaults resulted in an arrest. Of those arrested, males outnumbered females 7 to 1. Whites accounted for 60% of arrestees, while blacks accounted for 38%. Thirteen percent of arrestees were Hispanic. For the 1978 to 1982 period, arrests of persons 18 years of age and over increased 22%, but for those under age 18 the rate dropped 5%. Aggravated assaults comprised 58% of all violent offenses.

The Uniform Crime Reports (1983) also accounts for non-violent crimes and offenders. Crimes included in the UCR are burglary, larceny-theft, and motor vehicle theft. Arson has recently been added, but is not included in the figures below. These offenders committed 4,997.8 crimes per 100,000 population in 1982. Non-violent felons are also disproportionately represented by minority groups, but to a much less degree than violent offenders (UCR, 1983). Some of the individuals in this group will go on to commit violent crimes or have done so in the past, such as offenders who are burglars or larcenists. (Refer to Table 2.1.)

The sociodemographic characteristics of violent offenders in the community have been described. Can we use their criminal history to accurately predict violence in prisons? Are offenders incarcerated for violent crimes more likely to act out violently in prison than non-violent offenders? What kind of inmate directs his/her aggression at prison staff? Are murderers and assaulters more likely to assault and batter correctional staff than burglars and arsonists? It is generally assumed that criminals convicted of violent crimes are more dangerous in and out of prison than

those individuals convicted of non-violent offenses. Though opinions abound regarding these questions, documented data supporting a predictive model are lacking.

In spite of our knowledge about the sociodemographic characteristics of offenders, society is still attempting to understand why these individuals behave in an antisocial manner. Psychometric testing of violent offenders has helped to identify and describe the personality of these individuals. Egocentrism and lack of emotional control generally characterize violent felons. Explosiveness and immaturity along with deficits in conscious control mechanisms combined with the strong need to immediately gratify impulses are characteristics that describe murderers and assaulters. Unfortunately, many of these studies have been poorly designed and executed, with limited linkages to a theory of aggression and violence. As strictly descriptive studies, the data's usefulness is limited in providing a comprehensive understanding of violent behavior (Wolfgang and Ferracuti, 1967; Luckenbill and Sanders, 1977). Section 2.2 of this chapter will discuss, in greater depth, theories of violence and aggression, including the roles of victims and observers in a violent encounter.

In the 1980's, the nation faces a crisis regarding criminals and methods of dealing with them. Retribution, deterrence, and public protection are the major priorities for the criminal justice system. Our ability to deter crime has been poor. The public, and many correctional personnel, have become skeptical of current rehabilitation techniques. There is, however, a growing awareness regarding the financial and human costs incurred when the principle response to convicted felons is incarceration. Primary and secondary prevention efforts (that is, preventing a first offense and subsequent recidivism), remain painfully

inadequate. Public debate over these issues is increasing. To date, general responses to these problems have been limited to the imposition of tougher sentences and the building of more prisons. The public has not yet participated with legislatures and criminal justice experts in the development of comprehensive plans and strategies to prevent crimes and to facilitate the adjustment of offenders returning to the community. The ability of the correctional staff to deal with incarcerated inmates has received even less attention (U.S. News and World Report, Nov. 11, 1982; Time, Sept. 13, 1982; Lombardo, 1981; Luckenbill and Sanders, 1977).

2.2 Theories of Individual, Non-collective Violence

In the past 15 years, the nature and frequency of prison violence has changed. Though violent behavior by inmates is not a new phenomenon, prior to the 1950s, most prison violence was sporadic and related to pre-incarceration grievances. Since the late 1960s and early 1970s, the rise in individual violence has been notable. This is not to say that collective violence or riots have not occurred, but prior to this time individual acts of assault were relatively uncommon. Inmates' use of weapons and the seriousness of the confrontations have also worsened, with homemade knives often replacing fists, and beatings now ending in stabbings and murder (Sommer, 1976; American Correctional Association, 1970; Irwin, 1979; "The Price of Safety", 1980; Luckenbill and Sanders, 1977; Atlas, 1981).

Most research of prison violence has focused on riots or group violence. Little reliable data exists regarding individual acts of prison violence. Factors related to collective violence may be different from those contributing to individual aggression and violence and should not be

viewed as synonymous. However, a considerable volume of scientific work has focused on community-based, individual violence. It is this theoretical perspective that is discussed in this section, with those aspects that seem most germane to the study problem, assault, battery and injury of correctional officers by inmates, explored in greater depth.

There are a variety of theories that have been used to explain individual acts of human aggression and violence. Because of the complexity of the behavioral phenomenon in question, no single theory has satisfactorily explained all or even most of the causal and contributory factors relevant to violence. As empirical studies have been performed and theories refined, several approaches seem to be especially pertinent to understanding and predicting violent behavior.

There are three, general theoretical orientations that have been used in studies of individual aggression and violence -- the biological, psychodynamic, and sociological perspectives (Luckenbill and Sanders, 1977; Wolfgang and Ferracuti, 1967). Each position provides directions for research, with the focus at three different levels of analysis. A brief overview of the various theories of violence follows as an orientation to the field of violence studies. The sociological perspective has been explored in greatest depth because of the theoretical insights relevant to the study problem.

2.2.1 ***Biological Perspectives***: Biological theories of aggression and violence emphasize a physiological basis for these behaviors. Dating back at least to the theoretical work of Cesare Lombroso (1836-1909), who hypothesized that criminals were a manifestation of a primitive form of man, biological theories link aggression and violence to physiological

deficits and/or characteristics of some kind. Theorists such as Lombroso, Goring (1913), Hooton (1939), Sheldon, et al. (1949), Burt (1944), and Glueck and Glueck (1950, 1956) postulate that criminals and delinquents are physically and/or mentally inferior. For example, males with mesomorphic (i.e., muscular) physiques were found to be over-represented among delinquents while ectomorphs (i.e., slender, linear builds) were under-represented (Glueck and Glueck, 1950, 1956). Cyril Burt's (1944) hypothesis and observations, which state that delinquents tend to be an inferior organism, less healthy than non-delinquents, are contrary to the findings of Glueck and Glueck (1950, 1956). Megargee (1977b) argues that the preponderance, if one truly exists, of mesomorphs among delinquents can be explained from a social learning perspective. Muscular boys are more likely to be rewarded for (and successful in) aggressive acts and, therefore, more prone to develop antisocial behavior patterns.

Other physiological theories cite neurological and hormonal mechanisms as causal factors in animal and human aggression. Schlapp and Smith (1928) proposed that endocrine disorders cause criminal behavior. Others have documented the importance of the hypothalmus and the neocortex of the brain along with endocrine glands in controlling rage and aggression. Experimental and naturally observed alterations in brain centers, neurotransmitters, and polypeptides in animals and humans have yielded significant correlations with aggressive-violent behavior. Currently, most scientists feel that external stimuli and social learning trigger and help to shape the neurological response that precedes behaviors reflecting aggression, anger, and violence (Williams, 1969; Sandman, et al., 1976; Luckenbill and Sanders, 1977; Megargee, 1977b).

Though endocrine disorders and neurological pathology have resulted

in criminal and violent behavior, there is no evidence to suggest that all or most individuals acting aggressively and violently have endocrine or neurological imbalances (Montagu, 1941; Hoskins, 1941; Luckenbill and Sanders, 1977). For example, Williams (1969) found that at the autopsies of habitually aggressive individuals the presence of gross brain lesions were rare. The presence of microscopic lesions or abnormalities was not determined. It seems evident that there is a physiological component to aggressive and violent behaviors, but a causal role is questionable in most cases. The utility of biological models in predicting or explaining violence perpetrated by the majority of involved individuals remains to be seen.

2.2.2 Psychodynamic and Psychological Theories and Models: The psychodynamic theories arise from two central models. The earliest approach, the psychoanalytic model, with its roots in the Freudian concepts of the psyche and inborn drives or instincts, explains aggression and violence as a dysfunction in balancing and controlling impulses and desires. Freud theorized a universal 'death instinct', an active drive towards aggression, hatred, and destruction. Behavior propelled by the death instinct is balanced or modified in most individuals by a 'life instinct' and, through socialization and sublimation of desires, individuals learn to behave in a socially acceptable manner while dissipating tensions that are reduced through aggressive and violent behaviors in other ways (Wolfgang and Ferracuti, 1967). In violent individuals, the death instinct predominates.

Many psychoanalysts following Freud have taken divergent views of his theory regarding aggression and violence. Some psychoanalysts reject the concept of a 'death instinct', yet accept the instinctual aspects of

aggressive behavior (Hartmann, et al., 1949; Alexander, 1941). Others refute the innate aspects of the 'death' or aggression instinct (Saul, 1956). Wolfgang and Ferracuti (1967) point out that acceptable, biological explanations of an aggression drive are lacking, with no confirmation of the drive's existence demonstrated in well-planned and executed animal studies. Physiological evidence for neural and hormonal mediators of aggressive behavior exists, but the triggering mechanisms are external and/or pathological. Large-scale studies using human subjects testing the psychoanalytic drive theory have not been performed. Empirical support for a universal, innate drive is lacking (Wolfgang and Ferracuti, 1967; Luckenbill and Sanders, 1977).

The second and more widely accepted psychoanalytic model, initially set forward by John Dollard and his colleagues (1939), is the Frustration-Aggression Theory. The fundamental premise of this theory causally links the blockage of desire fulfillment with the generation of frustration, resulting in aggressive behavior. The initiating factor is external -- something in the individual's environment blocks achievement of a desire. Normally, obstacles to inappropriate aggressive behavior exist. These barriers may be sufficiently influential to channel aggressive actions towards removal of the source of frustration in a socially acceptable manner.

With testing and refinement of the model, other scientists have expanded upon the original, mechanistic theory of Dollard, et al. Researchers found that not all aggression could be linked to prior frustrations. Furthermore, external and/or internal controls could modify an individual's response to frustration, resulting in behaviors that are not outwardly directed, aggressive and/or violent actions (Megargee, 1977b).

With the inclusion of perceptual awareness and social learning as modifiers in the frustration-aggression response model, the theory gained greater predictive capacity and acceptability (Pastore, 1952; Cohen, 1955; Berkowitz, 1962; Pepitone, 1963; Wolfgang and Ferracuti, 1967; Megargee, 1977b). Wolfgang and Ferracuti (1967) link the expanded Frustration-Aggression Theory to a subcultural hypothesis, that is, the subject's subcultural membership is important in shaping his or her perceptual awareness and interpretation of the source of frustration and the subsequent response.

Violence is a permissible, if not expected response, among members of certain subcultures in situations that threaten manhood and peer group status among urban juvenile gangs or ghetto inhabitants (Goode, 1969; Wolfgang and Ferracuti, 1967; Miller, 1959). Furthermore, research suggests that an individual's response to frustration is learned rather than based on pre-programmed psyche controls (Bandura and Walters, 1959; Bandura, 1973).

The Frustration-Aggression Theory has been most useful in the area of general and clinical psychology. Unfortunately, its present value in the field of criminology for empirical research purposes is limited, primarily with regard to large population studies of subcultural groups known for their high rates of violent crime (Wolfgang and Ferracuti, 1967; Megargee, 1977b). Rates of frustration and factors causing frustration along with the quantification and qualification of the causal association of frustration and violent crime are frequently not accounted for or unavailable. Applying the frustration-aggression thesis to studies of large social groups has not contributed to a clear empirical data base. For example, in two studies on homicide, retrospective identification of frustration was identified in

murders. However, the causal relationship between frustration and aggression that ends in murder could not be specified nor were the different reactions of human subjects to frustration adequately defined (Henry and Short, Jr., 1954; Palmer, 1960; Wolfgang and Ferracuti, 1967). The methodological difficulties associated with Frustration-Aggression Theory testing persist today.

Psychiatric nosology and psychological typologies are descriptive methods of categorizing, predicting, and explaining criminal behavior. For example, Megargee's (1966, 1967; 1977b) typology of assaultive offenders are composed of two primary groups of individuals:

(1) "the under-controlled or habitually aggressive individual with minimal inhibitions who acts out anger, hostility, or aggression on the slightest provocation, and

(2) the chronically over-controlled individual with excessive inhibitions who avoids expressing anger, hostility or aggression at all costs" (1977b, p52).

The over-controlled individual is eventually overwhelmed by accumulated frustration and anger, with resulting behavior likely to be extremely violent. Studies by Megargee, Cook and Mendalson (1967) and Haven (1972) support the validity of this classification system, using the Minnesota Multiphasic Personality Inventory (MMPI) as a measurement tool. The classification system's diagnostic validity is enhanced when used in combination with case history data.

Certain psychiatric diagnoses or classifications are particularly likely to be associated with criminal behavior, such as pedophiles and exhibitionists, both forms of sexual deviants. Antisocial personality and the sociopathic personality, antisocial type, are psychiatric diagnoses of particular interest to criminologists studying violent offenders and

recidivists. The sociopath has been described as an asocial, aggressive, egocentric and highly impulsive individual who experiences little or no guilt associated with acts which are disapproved of by society. These individuals are unable to form lasting bonds of affection with other people. The sociopath's lack of appropriate anxiety and guilt and their inability to truly accept blame are characteristics that researchers and clinicians feel contribute to the sociopath's inability to learn from experience and traditional punishments, such as imprisonment (Megargee, 1977b; McCord and McCord, 1964).

Steadman's and Cocozza's Legal Dangerousness Scale (LDS) serves as an example of a measurement tool that has been used to identify those offenders who are likely to perpetrate future violent acts. The LDS was developed in an attempt to produce a quantitative, predictive scale based on specific, measurable offender variables that were thought to be related to future violence (Steadman and Cocozza, 1973, 1974; Steadman, 1973; Steadman and Keveles, 1972). Developed as part of a project studying criminally insane patients released to the community, the LDS summary score reflects the inmate's history of juvenile adjudication, number of previous incarcerations, any previous violent crime convictions and current offense (violent or non-violent). Scores range from 0 to 15, with increasing scores reflecting increasingly serious criminal histories. In the original study, this Guttman-type scale had a coefficient of reproducibility of 90.6.

More so than most scales, the LDS was found to be related to the subsequent criminal activity of released patients. The correlation between the LDS score and subsequent number of arrests was .202 and its correlation with subsequent convictions was .212, both significant at the

.01 level. Note, however, that these correlations, though statistically significant, explain only about four percent of the variance (Steadman and Keveles, 1972). The average LDS score for the male recidivist was 9.2 and for the other former male patient inmates was 6.0 ($t = 3.287$, $p = .01$). However, this difference does not mean the recidivist could have been predicted from the scores. Over 90 % of patient inmates with a score of 9 or more did not repeat violent criminal behavior in the four years following their release (Steadman, 1973). As with other predictors of dangerousness or violence, the LDS has had a high false positive rate. Furthermore, the utility of the LDS in predicting specific types of assaulters, such as inmates who assault and batter correctional officers, is unknown. These findings do indicate, however, that these summary scores of criminal history may have some utility in understanding future violent and criminal activity, justifying further investigation (Steadman and Cocozza, 1974; Steadman and Keveles, 1972; Steadman, 1973).

Systematic classification and analysis of violent offenders, such as those in the above examples, have generated hypotheses and clinical methodologies. When linked to the theory building and testing process, useful insights have been gained (Megargee, 1977b; Wolfgang and Ferracuti, 1969). A cautionary note must be sounded, however. Though diagnostic processes, such as those employing the MMPI, LDS, and psychiatric evaluations are useful in labeling, describing, understanding, and treating aggressive individuals, false positive predictions of future violent acts remain high. For example, psychiatrists, as a group, have predictive rates no better than chance when attempting to identify those individuals who will perpetrate violent acts in the future (Thornberry, 1973; Thornberry and Riedel, 1974; Thornberry and Jacoby, 1979; Pfohl,

1977; Steadman and Cocozza, 1973, 1974; Steadman, 1973). Megargee (1976, p10) states: "Psychological tests are neat, efficient, and quantifiable, but they are not always the best samples of behavior for the prediction of violence."

Megargee (1976), in a review of studies concerning violent individuals, also concluded that the accurate prediction of dangerousness, even among high-risk populations such as mentally ill offenders, had not been attained by social or behavioral scientists. Furthermore, neither psychodynamic nor behavior-based interventions have appreciably modified the behaviors of a substantial number of violent individuals. Note, however, that well-designed and implemented studies evaluating these approaches have been lacking -- especially longitudinal studies of large numbers of subjects (Megargee, 1976; Thornberry and Riedel, 1974; Thornberry and Jacoby, 1979; Steadman and Cocozza, 1972; Pfohl, 1977).

The psychodynamic models and psychological typologies have provided useful insight in understanding the nature of human aggression and violence. But as Megargee (1977b, p10) points out:

> "Skepticism is necessary, however, when approaching the contention that criminal violence is the sole result of certain innate drives or instincts or of idiosyncratic defects or abnormalities in internal control structures that compel people to be violent. A sociological orientation would argue that while people have the inherent capacity to be violent, such a capacity is shaped and directed by a variety of cultural and social processes." (Wolfgang, 1967; Bohannon, 1969; Goode, 1972).

A sociological approach to the study of individual violence does not preclude consideration of physiological or psychological factors. Rather, it broadens the conceptual framework, emphasizing to a greater extent environmental and social factors.

2.2.3 ***Sociological Theories:*** Sociologically-based theories of violence place emphasis on the context of the violent act and the roles and behaviors of those involved. Many sociologists feel aggression is shaped and directed by a variety of cultural and social processes, as well as the psychological characteristics of the aggressor (Wolfgang, 1967; Bohannon, 1969; Goode, 1972). Violence is a behavior pattern learned through social interaction (Schrag, 1969). Situational conditions and the roles and behaviors of the victim(s) and other participants help shape the aggressor's actions. Violent felonies such as assault, battery, and homicide are social acts occurring within social situations, with all persons involved responding in part to the behaviors of the other individuals (Goffman, 1967, p167; Luckenbill and Sanders, 1977, pp110-26). For example, in situations where the intended victim appears strong or puts up resistance, violence may be precipitated and greater force is generally used (Conklin, 1972; Clinard and Quinney, 1973; Toch, 1969).

In a social context, the labels "victim" and "aggressor" may be somewhat misleading when defining the participants of violent acts (i.e., primarily with regard to homicides and assaults). Both participants may be equally aggressive, with the winner labeled "aggressor" and the loser "victim". This is especially true for acts of passion -- those felonies occurring as a result of jealousy, anger, and threats to self-esteem and status. Robberies, muggings, and rapes, in contrast, are more likely to include an individual who is an unwilling participant -- "victimized" -- in a violent interchange (Luckenbill and Sanders, 1977; Mulvihill and Tumin, 1969, Vol. II).

Sociological approaches to the study of violence have also included

the epidemiological characteristics of violence and the attempted identification of etiological factors relevant to violent offenders. Both orientations have provided useful information about the distribution, incidence, and characteristics of violent acts and individuals, but have been somewhat limited in the generation of effective prevention strategies. However, the social context approach initiated by Erving Goffman and briefly described earlier not only explores individuals and their moments but "moments and their men" (Goffman, 1967, p3).

Included in this sociological approach would be consideration of the victim, audience (if applicable), setting, and interaction along with the offender. For example, the aggressor(s), victim(s), and audience have been found to shape the actions that eventually culminate in homicide or assault, forming an implicit agreement in the process that physical violence is a suitable means of resolving questions of face. A second feature common to both homicide and assault is that the preponderance of these situations occur during leisure-time rather than work-time. They are usually non-scheduled events in terms of time and place. Leisure-time occasions also tend to be loosely, rather then tightly, structured interactions, permitting a wider range of acceptable activities. Behavioral diversity in loosely structured situations is felt to foster individual forms of violence (Goffman, 1963, 1967).

Another feature common to and distinguishing both homicide and assault is that the violence is escalated by a character contest, a confrontation between offender and victim in which both parties attempt to establish or save face at the expense of the other by strongly maintaining their position in the presence of adversity (Goffman, 1967, pp218-9, 238-57). In contrast, forcible rapes and muggings, also

characterized as violent crimes, involve situations where the offender unilaterally structures the time and place of attack. The victim is usually manipulated during and after entrance to the attack setting, with the aggressor forcing his definition of the encounter on the unwilling, dissenting victim. Furthermore, though the victim's actions help shape the encounter, this type of interaction does not find the offender and victim moving towards a tacit agreement that violence is an appropriate solution to the situation (Luckenbill and Sanders, 1977; Hunt, 1969; Mulvihill and Tumin, 1969; Conklin, 1972; Rubinstein, 1973; LeJeune and Alex, 1973). Support for the sociological interpretation of violent acts is provided by a study of assaults involving police and citizens conducted by Hans Toch (1969).

Toch found in assaults between police and citizens that a series of face-saving moves by both parties often preceded the use of force by one or both parties. The citizen may refuse to assume the role of suspect or criminal that the interaction desired by an officer implies. Or, the citizen may see this interaction as an affront to his community status and independence. The officer sees the citizen's refusal to obey as a challenge to his authority and an indication of danger. Abrasive language often aggravates the encounter. The presence and actions of an audience may further fuel the developing conflict via taunts and threats. Neither party will back down and violence results. Both individuals help shape the other's response. Studies by Hudson (1970) and Reiss (1971) support Toch's work.

Included as a relevant sociological variable is the societal setting, often described in terms of the subcultural norms, lifestyle, behavior patterns, and environment of the actor(s) involved in assaults and

homicides. Among social groups experiencing high rates of assault and homicide, such as residents of urban ghettos, researchers have postulated and begun documenting a subcultural ethos of violence in which a much wider range of situations is perceived by many as justifying an aggressive response (Mulvihill and Tumin, 1969; Wolfgang and Ferracuti, 1969).

> "An altercation with overtones threatening a young man's masculinity, a drunken misunderstanding between husband and wife on Saturday night, a competition for the same woman -- these can be more than trivial events in a ghetto environment which accepts violence as a norm, allows easy access to weapons, is physically deteriorated and segregated from the rest of the community, has reduced social controls, and experiences inadequate law enforcement." (Mulvihill and Tumin, 1969, Vol. II , p233).

Violent behavior patterns are learned, with role modeling by significant others and those individuals with whom children identify as key figures in this process (Bandura and Walters, 1959; Mulvihill and Tumin, 1969). Violence in selected subcultural settings becomes an accepted method of resolving desires, jealousy, conflict and threats to status.

Though community-based studies of assault and battery have supported the importance of situation- and actor-specific variables in explaining the event, prison-based studies of this kind have been lacking. The prison studies that have been conducted have tended to focus on a very limited number of sociological variables, such as crowding, housing conditions, and offender sociodemographic and psychological variables, with little analysis of other participants and interactional factors. Furthermore, these studies have primarily been descriptive and lacking in experimental control.

Other sociological factors that have been related to prison violence

reflect the changes in the nation's prison population and guard force over the last 25 years. Prisons are characterized by increased polarization, politicizing, and unionization among correctional officers and inmates (Conrad, 1977; Ross, 1981; Lombardo, 1981; Luckenbill and Sanders, 1969). The perceptual gap between correction administrators and officers has widened (Cheek and Miller, 1982). New power blocks have formed reflecting subcultural counterparts in the community, such as the Black Muslims, Chicano, and Neo-Nazi groups of California's prisons (Conrad, 1977). The balance of power has shifted from the administration and officer to the inmate. Intergang and individual violence, intimidation through threats and force, manipulation, and legal maneuvers aimed at insuring personal rights are current inmate responses to incarceration (Clemmer, 1958; Hogarth, 1977; Brodsky, et al., 1979; Moses, 1977; Cheek and Miller, 1982; Lombardo, 1981). The relationship of selected sociological variables to individual violence occurring in prisons will be discussed in the next section.

In summary, a sociological, theoretical perspective, with attention to victim, audience, and situational variables, as well as offender variables, appears to be the most rewarding approach in studying violence, when the central goals are to identify and develop predictive and preventive methodology. The social context approach is applicable for both general community and prison-based studies of violence, although prison-based studies utilizing this model have been limited in scope and number. Prisons are subcultural systems, with many norms and behavioral patterns characteristic of the resident's and staff's home environments evident. In addition, other unique social patterns may emerge. Acts of prison-based individual violence still involve aggressor(s), victim(s), and, sometimes,

audience interacting in the context of the situation at hand and the cultural milieu. The following section will discuss the relevance of participant and situational variables in relation to individual violence occurring in prisons, with emphasis placed on violence involving both inmates and staff. At times, the studies performed lacked a clear theoretical basis; yet, the sociological variables identified as relevant are meaningful in formulating a sociological perspective of individual violence, including that occurring between correctional officers and inmates.

2.3 Correctional Officer and Inmate Sociodemographic Variables

The association of offender sociodemographic variables and violent crimes has been briefly described earlier in the chapter. The following is a more detailed discussion of these factors along with the known associations between correctional officer characteristics and involvement in prison violence. As noted in the introductory chapter, however, few studies have been performed examining prison violence in relationship to prison officers, including those episodes involving violence directed at officers. Even published incidence rates of assault, battery, and injury of correctional officers by inmates has been unavailable. In the context of a sociological theoretical orientation, sociodemographic variables help describe the participants in battery encounters. This orientation is incorporated in the utilization of literature findings that are discussed in the following section.

The age, race, and sex of both officers and inmates are independent, demographic variables. Research indicates that these variables may be linked to violent crimes, including assault and battery.

Age has been strongly associated with violent acts in a number of

studies, with younger individuals much more likely to act violently (Thornberry and Jacoby, 1979; Depp, 1976; Quinsey and Varney, 1977; Fuller and Orsagh, 1979; Farly and Roundtree, 1979). In their classic study of delinquency, Wolfgang, et al. (1972) documented the propensity toward violent acts in a birth cohort of males during their adolescence and early twenties. These rates were significantly higher than among older adult males. Fuller and Orsagh (1979) report prison assaulters, as compared with non-assaulters, as much more likely to be younger than 33 years while Farly and Roundtree (1979) identify the high risk group to be under 29 years. Note, however, that a majority of inmates in adult correctional institutions are between 20 and 30 years of age (U.S. Department of Justice, December, 1976). Quinsey and Varney (1977), in studying violent events within a forensic institution, found that batterers were significantly younger than non-batterers. Thornberry and Jacoby (1977) found that the rate of disturbances, mostly violent, also occurring in a forensic facility decreased with increasing age of the perpetrator. There have been no studies to the author's knowledge documenting the relationship of officer age and involvement in assault and battery encounters.

Race has been correlated with violent acts by some researchers, with non-whites over-represented among intra-institutional batterers (Depp, 1976, Dietz and Rada, 1982, 1983). However, Dietz and Rada (1982, 1983) point out in their study of patient-inmates incarcerated in a forensic facility that inmates transferred from prison were disproportionately black. Transferred inmates were usually assigned to a unit with a small day room and consistently high battery rates. Prison transferees tend to be more violent than those patients incarcerated for pre-sentence psychiatric evaluation. Based on the Dietz and Rada study, concluding

that race is a risk factor for involvement in institutional assault and battery is questionable.

In prisons for non-psychiatric offenders, blacks represent slightly less than half of the approximately 400,000 inmates incarcerated nationwide (Sourcebook, 1982; Time, Sept. 13, 1982). Whether black inmates are over-represented among batterers in prisons was not known prior to the study. Nationwide statistics of the racial distribution of inmates participating in violent acts within prison are not available (Sourcebook, 1982).

As with age, the importance of officer race as a predictive factor for involvement in institutional assault and battery has not been reported. A related issue concerns race differences between officer and inmate battery participants. Are white officers more likely to be battered by black inmates, controlling for the proportion of black inmates in a given prison? Is the reverse situation true? Again, data has been lacking.

Sex has been reported by Tardiff (1981) as correlated with battery among hospitalized patients, with males predominating. However, Depp (1976), controlling for race, found similar battery rates for men and women among patients on a psychiatric ward. Stokman (1980) found rates for all types of disturbances higher among women inmates, but the rate of injury associated with these incidents was lower for disturbances involving females, as compared with males, in the same forensic facility. Prison folklore attributes increased violent tendencies to female offenders; however, studies comparing male and female inmates while controlling for race, security classification, and criminal history have been lacking. Clearly, males predominate as perpetrators of violent crimes in society (Sourcebook, 1982).

The importance of officer sex as a factor in battery episode

involvement and injury outcome is unknown. Note that factors other than gender may impact on the relationship observed. In many states, female COs are prohibited from staffing posts located in male inmates' living areas -- sites where many battery episodes occur.

Little information is available regarding the relationship of marital status, prior occupation, education, and armed forces veteran status of batterers within prisons and forensic facilities. Dietz and Rada (1982) found no significant differences in the distribution of these variables among batterers and controls incarcerated in a forensic institution. Research data reflecting the relationship of these variables, as they apply to COs and subsequent involvement in assault and battery incidents with inmates, is unavailable. Experts in the field of corrections cite post-secondary education and job specific training (pre-job placement and periodic) as instrumental in preparing COs to appropriately deal with inmates, including defusing violent encounters and preventing injuries. However, empirical data is lacking (Ross and McKay, 1981; Krug-McKay, McKay, and Ross, 1981; ACA, 1970). Clear direction regarding the skills and training important to COs in handling assaultive episodes is absent (Fogel, 1975; Krug-McKay, et al., 1981; Willett, 1973).

Length of employment as a correctional officer was a variable of interest, with employment duration reflecting in some ways the degree of job socialization and unofficial on-the-job training the officer had experienced. Maryland Division of Correction prison administrators and line officers stated that the length of employment might help to predict CO involvement in inmate conflicts, but noted that duty post assignments would need to be controlled for simultaneously (Interviews, 1981-1982). Newly hired COs are frequently assigned to less dangerous "orientation"

posts, while older, veteran COs are "rewarded" with assignments having less inmate interaction. Unfortunately, research data was unavailable with regard to this variable.

The criminal history and current offense of inmate batterers is reflected in their security classification and sentence length. Operational assumptions linking dangerousness to criminal offenses have long been made in classifying and labeling inmates. With recidivism rates of at least 30% within three years after release, it seems logical to consider prior criminal history as a risk factor for future violent acts (Sourcebook , 1982; Uniform Crime Reports, Sept. 11, 1983). However, in spite of dealing with a high risk group of individuals, many of whom have previously acted violently, false positive rates are especially high using current predictive methods (Megargee, 1976). Of even greater concern to the public, future violent offenders are also missed. Prison classification procedures are currently a matter of judgement and include consideration of inmate criminal history. These factors have been addressed previously, but need to be considered in the context of sociological variables relevant to inmates and to the study problem.

In summarizing the generalizations drawn following their study of interpersonal violence in a forensic facility, Dietz and Rada state:

> "The most important generalization that can be made about existing knowledge of the relationship between patient (inmate) characteristics and violence within forensic facilities is that no strong associations are known . . . we think that the most useful predictors of intra-institutional violence will ultimately be shown to be history of intra-institutional violence, mental status, legal status (pre-sentence individuals less likely to batter), and age. Charges and diagnosis are less likely to prove useful." (1983, p56) How predictive Dietz and Rada's generalizations are for interpersonal violence within prisons remain

> to be seen. Differences, as well as similarities, between forensic and prison facilities, along with the characteristics of those incarcerated, must be taken into consideration.

With an occasional exception, COs do not have a criminal history. However, many officers do have a history of prior involvement and injury from assault and battery encounters with inmates in the course of their work. Data is unavailable regarding the risk associated with CO's prior physical conflict with inmates and subsequent conflicts. Research findings have demonstrated such a pattern with violent offenders -- that is, in correctional facilities, batterers are more likely to batter again than are those inmates without a history of battery (Dietz, 1982a, 1982b). Logically, a similar question should be asked of officers -- are prior assault and battery involvements with inmates a risk factor for similar involvements in the future? And, if so, are there other contri-butory factors, such as the officer's duty post assignment, associated with subsequent involvement?

2.4 Correctional Officers' Attitudes, Beliefs, and Behavioral Intentions Regarding Inmates, Corrections, and Assault and Battery Encounters with Inmates and Subsequent Conflict with Inmates

The theory explaining the relationship of attitude and behavior proposed by Ajzen and Fishbein (1977) supports the utility of examining the relationship of CO attitudes and beliefs in relationship to officer involvement in assault and battery episodes with inmates. The following section includes a general discussion of attitude and behavior theory, the relationship of the theory to the study problem, and relevant findings reported in the literature. Justification for the approach taken in the study in the

context of a sociological, conceptual framework will be included.

Shaver (1977) states: "An attitude is an organized predisposition to respond in a favorable or unfavorable manner toward a specified class of social objects." Stated simplistically, an attitude represents an evaluation or judgement concerning some aspect or entity relevant to an individual, such as another person, a physical object, a behavior or set of behaviors, and a law or policy. An attitude tends to predispose one to behave in a certain way in situations involving the aspect relevant to the attitude in question (Ajzen and Fishbein, 1977; Wicker, 1969; McGuire, 1972).

Caution must be exercised, however, in using attitudes as predictors of behavior. Evidence of the apparent low rate or lack of congruence between attitudes and subsequent behaviors has been accumulating for 40 years as documented by Wicker (1969). Current thought postulates that an attitude may be only one of many factors determining a behavior. Furthermore, researchers frequently made intuitive assumptions concerning the attitude in question, the behavioral intention stemming from that attitude, and a subsequent behavior. Consistency among these three components was frequently lacking, therefore, a test of the attitude/behavior relationship was of limited value (Ajzen and Fishbein, 1977).

Obviously, an accurate measurement of the attitude of interest is essential in determining the relationship between the attitude and behavioral outcome. But equally important is the identification and measurement of the behavior that is congruent and consistent with the attitude involved. Obtaining data on the subjects' behavioral intentions will often help to ensure this consistency.

Other impinging social factors, situational variables, and attitudes and knowledge must be taken into account as well (Ajzen and Fishbein,

1977; Wicker, 1969). For example, the potential effects of age, race, sex, and other sociodemographic participant characteristics have been discussed. Additional variables, such as the location and situational conditions of an officer-inmate encounter may also influence the officer's behavior (along with the inmate's) in an encounter. The sociological perspective seems essential in evaluating the utility of the attitude/behavior relationship with respect to CO involvement in and injury from assault and battery encounters with inmates.

An additional point of interest deals with individuals experiencing inconsistencies between their attitudes and behaviors. Fishbein has found that in some of the situations involving attitude and behavioral dissonance, the individual will eventually respond by changing his attitude rather than his behavior. In the context of the study and drawing from Fishbein's findings related to attitudinal/behavioral dissonance, we might find a correctional officer responding with force to control an inmate though the use of force is basically abhorrent to him. This officer experiences attitude/behavior dissonance. With repeated experiences of this kind and perhaps the approval of his peers, the officer may eventually accept the use of force as a necessary and appropriate behavioral response in dealing with inmates. Unfortunately, research studies exploring this and other possible relationships specific to the study problem have not been reported.

Correctional officer attitudes, beliefs, and feelings concerning their roles and correctional issues have recently been studied by a number of researchers (Cheek and Miller, 1979, 1982; Lombardo, 1981; Ross, 1981). Patterns that emerge reflect low rates of job satisfaction, indications of role conflict and role ambiguity, dissatisfaction with specific job aspects, concern about inmate control measures, concern about prison conditions,

and feelings of hopelessness and apathy. Of greatest concern to COs are administrative issues, including beliefs that control rests with inmates. Inconsistencies in management abound, officer involvement in decision-making is lacking, and the influence of the courts and political forces are frequently detrimental to the operation of the prison system. Rising concern about civil suits and criminal charges brought by inmates is evident (Cheek and Miller, 1979, 1982; Lombardo, 1981; Ross, 1981; Bullard, 1977). Bullard, in his study of 1003 prison officers in New South Wales, Australia, found significant, positive correlations between high indicies of role conflict and "job pressure", especially notable in maximum security prisons, and lost work time due to illnesses. Unfortunately, other studies have been cross-sectional surveys and have not examined the relationship of officer attitudes and behavioral outcomes. Weak study designs have been a major drawback in past research specific to correctional officers and related concerns. With the paucity of data available, a broad-based approach examining general attitudes, as well as behavior specific attitudes, beliefs, and behavioral intentions related to corrections and assault and battery by inmates, is justifiable.

2.5 *The Relationships of Environmental and Situational Variables to Non-collective Prison Violence Directed at Correctional Officers*

Environmental and situational variables, such as time, institutional activity pattern, type of inmate housing, space (crowdedness), location, and inmate census have been found to be associated with aggression and violence in prisons and forensic facilities (ACA, 1970; Farrington, 1980; Farbstein, et al., 1979; McCain, et al., 1980; Clements, 1979; Greenfeld, 1978; Megargee, 1976, 1977a; Dietz and Rada, 1982, 1983; Nacci, et al.,

1977; Thornberry and Jacoby, 1979). Dietz and Rada (1982) found that battery incidents varied significantly by time of day, with peaks at meal times. Meal times represent situations of high social density or times when interaction between patient-inmates are greatest. Dietz and Rada were able to classify events as either assaults or batteries, based on the initial activity identified. They found that in situations where high social density existed, but close staff supervision was evident, rates of assaults (that is, threats of bodily harm) remained high, but rates of battery (that is, an exchange of physical force) decreased. If staff supervision was less intense, but social density remained high, battery rates increased. Three additional studies of psychiatric facilities support a similar time of day/social density pattern (Depp 1976; Fottrell, 1980; Melbin, 1969), but were not consistent in differentiating between assault, battery, and other forms of aggressive behaviors.

In contrast, Quinsey and Varney (1977) found quite a different pattern emerge by hour of day. Also studying mentally ill inmates, they observed a sharp rise at 8:00 a.m. after breakfast. This coincided with inmates' preparation to depart for a work assignment or other structured activity, and involved performing sanitation assignments and unsupervised activities. The frequency dropped at lunch time, rose again between lunch and dinner and was highest after dinner. The post-dinner time period was characterized by unstructured activities that involved interaction with other inmates.

The differences in time of day patterns become more understandable when examined in conjunction with location of the battery incident. Batteries arising from Dietz and Radas' subjects occurred with greatest frequency in the dining room and ward dayrooms. "These two locations

accounted for a statistically significant association between the density of patients at certain locations and the proportion of incidents at these locations that were batteries" (Dietz and Rada, 1983, p53). In the Quinsey and Varney (1977) study, subjects had limited access to the dining room, gaining this privilege after demonstrated stable behavior. Fewer patients gathered there at any one time. Instead, locations with high rates of battery were patient rooms and housing corridors, sites with frequent inmate interaction. Time of day and location patterns must be interpreted in relationship to inmate/patient interaction patterns and activities. Staff supervision may also be relevant. From the officer's perspective, that is his/her relative risk, duty post assignment may prove to be a predictive variable for involvement.

One additional point of interest in relationship to time was reported by Dietz and Rada (1982, p33). Of the 576 persons struck or injured in their study of intra-institutional violence at a 350 bed maximum security hospital, 133 were COs. Officers were six times more likely to be physically injured each hour spent in the institution as compared to patient inmates. Of the 193 injuries to inmates and staff, 54% occurred when officers attempted to subdue or restrain inmates, including 91% of injuries to officers.

Date and more specifically the month of the year and day of the week have not been found by Dietz and Rada (1983) and Quinsey and Varney (1977) to be significantly related to the occurrence of interpersonal violence. Popular folklore correlating a full moon with increasing acts of violence was not supported either (Quinsey and Varney, 1977).

Crowding and loss of privacy have been positively associated with increases in aggression in general and rises in prison violence specifically

(Clements, 1979; Megargee, 1976, 1977a; Saegert, 1976; D'Atri, 1976; Nacci, et al., 1977; Stokols, 1972; McCain, et al., 1980; Greenfeld, 1978). Males and whites have been shown to tolerate crowding less well than females and non-whites (McCain, et al., 1980). Researchers explain this sexual/ethnic variation in tolerance to crowding to differences in socialization. Megargee (1977a) found a correlation of -.52 between square feet of living space per inmate and the number of disciplinary violations for misconduct and disruptive behavior. McCain, et al., 1980, found statistically significant correlations between increases in prison population and non-violent disciplinary infractions. This pattern was especially evident in large prisons with an average census of 1600 inmates or more. McCain, et al. (1980) and Atlas (1981) found that inmates living in open dorms, characterized by high interaction patterns and limited personal space, tend to have higher infraction rates than those inmates housed in single, double, or six-man cells, controlling for security classification. Confinement or segregation housing, with inmates restricted to single or double cells for 23 to 24 hours daily, had the highest rates of violence. Atlas included only incidents of inmate violence in his frequency count of infractions. Both studies based rates on frequency per 100 inmates. Random assignment to type of housing area, such as single cells, double cells, cubicle dormitories, and open dormitories, was not possible and limits conclusions based on these studies.

Studies quantifying and describing weapons used in noncollective violence within prisons have not been published to the author's knowledge. Dietz and Rada (1982a), however, were able to report weapon use in the 221 battery incidents documented in the aforementioned forensic facility study. Of the 232 batterers involved in 221 battery incidents, the weapon

used was part of the assailant's body for 211 (91%) of the individuals. Food, belts, furniture, and rocks were the most frequently used exogenous weapons. Each of these items was used by only two or three individuals.

In contrast, prison authorities report the more frequent use of lethal weapons by prison inmates. Especially prevalent are hand-crafted, sharpened objects known as "shanks", used as stabbing devices. Unfortunately, objective data documenting the use of "shanks" and other weapons in inmate-officer altercations are not available.

Events precipitating non-collective violence in prisons have been poorly documented as well. In 170 (76.9%) of the 221 battery episodes reported by Dietz and Rada (1982a, p33), the battery incident was not anticipated by officers. The battery was in progress between inmates and/or others when the officers intervened or the officers were attacked (20 officers, 4 staff members) without prior warning via the inmates' behavior. Of the 51 battery incidents preceded by some other form of aggressive or disruptive conduct, the following initiating events were reconstructed: "provocative talk (12), disobedience (ten), threatening talk (six), bizarre conduct (five), provocative action (five), throwing an object at someone (four), destruction of property (three), threatening action (three), striking an inanimate object (two), and wandering off limits (one)." The researchers note that all of the above behaviors occur commonly in the study institution, with the preponderance not followed by a battery.

A final situational finding reported by Dietz and Rada (1982, p33) and supporting the work of Toch (1969), Luckenbill and Sanders (1977), Mulvihill and Tumin (1969, Vol. II), and Goffman (1967) concerned the importance of the participants' interaction. Patients who initiated batteries, either by striking the first blow or through an aforementioned

precursor, were themselves likely to become the recipients or "victims" of forceful contact by the episode's conclusion. "The patient who initiated the incident was hit in 153 (69.2%) of 221 batteries. In contrast, patients initiating simple assaults, parasuicide, or disruptive behaviors were hit in 126 (30.2%) of 417 incidents ($x^2 = 87.8$, df = 1, $p < .001$).

Studies specifically examining the impact of environmental and situational variables in relationship to assault, battery and injury of correctional officers have been lacking. These variables in a social context help to describe the setting and situational factors relevant to non-collective prison violence. Their predictive relevance to the current study will be discussed in subsequent chapters.

2.6 The Conceptual Framework of the Study: The Injury Control Model

The unifying conceptual framework providing rationale and direction for the study design and the variables chosen for consideration comes from the Injury Control Model proposed by Haddon (1963, 1979). From a research and community health perspective, the model provides direction for the identification of variables that contribute to and influence the outcome of an injury-causing event. Drawing from the field of epidemiology, Haddon's model considers the interaction of causal agents (energy forms), vehicles and vectors of transmission, human or host factors influencing susceptibility to an injurious agent, and environmental/ situational factors that may influence or contribute to the event occurrence and outcome. Post-event variables are also considered as a means of identifying strategies to reduce the severity of the injury outcome.

Incorporation, within the model, of a time perspective by dividing an injury event into three stages, specifically the "Pre-Event", "Event", and "Post-Event Phases", permits further exploration of causal and contributory variables and their roles in injury occurrence, outcome, and generation of countermeasures or control strategies (Baker and Haddon, 1974; Haddon, 1979). Agent, host, vehicle, and environmental variable exploration is enhanced with the utilization of the event phases matrix.

DeHaven (1942) is generally acknowledged as the originator of the modern conceptualization of injury control, beginning with his work involving "survival in falls from heights of fifty to one hundred and fifty feet". He appropriately identified the causal agent, mechanical energy exchange, and the significance of the interaction of energy, host, and environment in an injury occurrence and outcome (DeHaven, 1942; Haddon, 1979). Instrumental in promoting an epidemiologic research orientation, DeHaven de-emphasized the "accident prevention" orientation toward injuries, with its excessive pre-occupation with assigning "fault" identification to those individuals involved and with randomness of the event. Other researchers, such as Baker (1975, 1981), Baker and Dietz, (1979), Baker, O'Neill and Karpf (1984), Haddon (1963, 1968, 1970, 1972, 1973) and Robertson (1983), have further contributed to the injury control field and its basic premises. Central premises of the Injury Control Model include the following:

* A focus on injuries versus accidents. The commonly held notion of "accident" implies chance, fate, and randomness of the event and recklessness, carelessness, and/or fault of those individuals involved (Waller, 1974; Haddon, 1979; Haddon and Baker, 1981).

* Causal agents, as defined in an epidemiologic context, are energy sources such as

mechanical, thermal, electrical, chemical, and non-ionizing radiation. In injury occurrences, energy is exchanged in a manner and dose necessary and sufficient to overcome the host's injury threshold or resistance (Gibson, 1961; Haddon, 1979).

* Injuries are sustained in response to the interaction of agent, host, and environmental factors in which energy is exchanged, with the sequence of interactions viewed in pre-event, event, and post-event phases (Haddon, 1979, 1981).

* Effective strategies to prevent and limit injuries arise from an understanding of the roles of agent (energy exchange source, dose, and vehicle), host, and environment (physical, psychosocial, and cultural) in the pre-event, event, and post-event phases -- Haddon's Injury Control Matrix. Passive strategies or counter-measures instituted during these phases not requiring behavioral changes by individuals or groups are especially important in the successful modification of contributory factors and eventual prevention and reduction of injuries and long-term injury outcomes (Haddon, 1979, 1980).

* The Injury Control Model is a viable conceptual framework in the study of any and all injuries, including those that occur in the context of human conflict (Dietz, 1982; Haddon, 1979; Baker, O'Neill, and Karpf, 1984).

The appropriateness of the injury control premises cited and the utility of the model in a wide variety of injury studies have been upheld and include injuries associated with individual violence (Dietz, 1982, Dietz and Rada, 1982), high school football (Gerberich, et al., 1980), childhood activities (Rivara, 1982), motor vehicle crashes (Haddon, 1980), and other activities (Baker, O'Neill, and Karpf, 1984).

As with other injury events occurring in the home, workplace, and community, studies of injuries attributed to interpersonal violence have traditionally emphasized the causal role of the principal individual(s)

involved -- in these situations, the aggressor(s). More recently, with the work of Wolfgang and Ferracuti (1969), Toch, (1969), Goffman (1967), Megargee (1977a, 1977b), Lombardo (1981), McCain, Cox, and Paulus (1980), and Dietz and Rada (1982, 1983), a sociological theoretical perspective has provided the stimulus for exploration of human (host), agent, and environmental variables and their interaction. Note, however, that identification of the injuring agent continues to be confused with the vector or vehicle responsible for the exchange of injury -- that is, the aggressor and/or his weapon. Application of the Injury Control Model to this health problem further defuses the need to place blame for the event's occurrence. Additionally, it supports the importance of exploring all potentially contributory, as well as causal, variables in generating countermeasures aimed at preventing the event, preventing the injury, and/or limiting the extent of the injury.

In examining the problem of assault, battery, and injury of correctional officers by inmates from the injury control framework, an avoidance of the aggressor-victim and fault-finding orientation of earlier studies of violence is possible. Prior research has demonstrated the difficulties involved in modifying attitudes, beliefs, and subsequent behaviors and exclusive reliance on this approach as a means of preventing or limiting injuries (Ajzen and Fishbein, 1977; Bandura, et al., 1977; Baker and Haddon, 1974). The continued high rates of fatal and non-fatal injuries occurring in the course of crimes involving interpersonal violence attest to society's inability to modify violent behavior and so reduce the resulting injuries. However, consideration of other associated factors, such as methods to modify the force of energy exchanged and its inmpact on the host, have been somewhat successful in reducing the number and

seriousness of injuries without preventing the event. The use of bullet-proof vests by police officers in the community is an example of the above approach to injury control. An analogy in a prison setting would be the use of knife-proof vests by correctional officers, to separate the injuring agent and limit the exchange of force from the host. To the author's knowledge, the utility of this vest as a countermeasure has not been evaluated with an adequate number of subjects (COs) over a period of time in their work setting.

Haddon proposes ten steps or countermeasures for injury prevention or reduction, with several measures involving environmental controls and modifications. Each step is defined below and discussed as it might apply to the injury control problem under consideration -- the assault, battery, and injury of COs. The ten steps are:

1. Preventing the marshalling of potentially injurious agents. An effective example from the corrections field might be the elimination of materials from the inmates' environment from which weapons are made, such as wire hangers, wire bed springs, and metal eating utensils.

2. Reducing the amount or rates of injurious agents. If inmates (including their body parts) and the mechanical energy discharged are considered injurious agents, limiting the number of inmates that can congregate at any point in time would decrease "the amount" of energy that could be mobilized.

3. Preventing the inappropriate release of the agent. Defusing verbal altercations before physical energy is exchanged is a possible strategy.

4. Modifying the release of the agent. Strategies to decrease anger and hostility or channel these feelings and the actions that may accompany them towards acceptable outlets might be an effective approach. Limiting inactivity and boredom through regular structured exercise, recreation and work programs are specific

activities that should provide positive means of channeling behaviors. Community-based studies of violence have implicated unstructured, leisure time as a high risk period for assaults, batteries, and murders.

5. Separation in time and space from the injurious agent. Modifying inmate movement patterns and numbers, decreasing crowded conditions, and increasing inmate living space and privacy are all examples of this countermeasure aimed at preventing injuries to officers.

6. Separating with physical barriers. Use of a knife-proof vest or a shield by officers may be useful in deflecting and absorbing energy.

7. Modifying surfaces and basic structures. Prisons tend to be constructed of metal bars, concrete and other unyielding surfaces. Especially with new institutions, the addition of carpeting on floors and walls may reduce injuries sustained during forceful contact with these surfaces. The general milieu of the prison may also be influential in creating an environment conducive or non-conducive to violence (Goffman, 1967).

8. Increasing resistance to injury. Many COs report they receive little exercise and are in poor physical condition (Lombardo, 1981; Ross, 1981). An aerobics and weight-training program for officers would be a strategy aimed at increasing officers' resistance to physical injury, especially due to contact with an assailant's fists or feet. Improved physical condition may also facilitate recovery if an injury is sustained.

9. Emergency response to those injured. Training officers in first aid, cardiopulmonary resuscitation, and evacuation may reduce the extent of injury for both COs and inmates.

10. Medical care and rehabilitation. Psychological counselling may be an appropriate intervention at this stage, with the goal for officers to express and resolve their anger and fear. Inability to vent and work through feelings may increase the likelihood that officers may exacerbate potential battery situations in the future (Haddon and Baker, 1979; Baker and Dietz, 1979a, 1979b; Dietz, 1983).

Application of the Injury Control Model provides the following structure in examining the CO assault, battery, and injury problem in conjunction with the sociologial theory of violence and the variables discussed earlier. The interactions of human (host), environment, vector, and agent factors will be explored as they relate to the problem. Appropriate for consideration are sociodemographic variables characterizing participating and non-participating COs along with involved inmates; pre-event attitudes, beliefs, and behavioral intentions of COs regarding corrections and inmate encounters; weapons and the nature of energy exchange; environmental and situational variables such as event location, time, sequence of interactions, and so forth; pre-event and event behaviors of COs and inmates; and the frequency and seriousness of CO injury. For the most part, the injuring agent is mechanical energy, though the source and vector factors vary (Dietz and Rada, 1983). Identification of predictors and risk factors for CO involvement in assault and battery episodes and for injury as a consequence should follow the application of the model to the study problem. Note also that the study's focus is the officer, not the inmate, and the implications of battery involvement for the CO. At this stage of problem exploration, emphasis is appropriately placed on the pre-event and event phases of the assault and battery episode. Post-event factors primarily impact on extent of injury and long-term sequela issues. Factors which help predict and/or explain the occurrence or avoidance of injuries as a result of CO involvement are also an appropriate study priority. Findings using this study approach should help to generate countermeasures effective in preventing and/or minimizing assault and battery injuries to prison officers, the eventual aim of this study.

2.7 Study Hypothesis

The intent of the study is to determine the incidence rates of battery and battery injuries among State of Maryland correctional officers as a result of physical conflict with inmates. A conflict between officer and inmate is defined as a case if the inmate batters the officer. Assault, that is, a verbal and/or physical threat to inflict serious bodily harm or death, may or may not occur as well.

In conjunction with the determination of incidence rates, the following major hypothesis has been formulated: correctional officer involvement with inmates in battery episodes (with and without assault) and subsequent officer injuries can be predicted by officer, inmate, and environmental variables. The determination of a risk factor model for assault and/or battery episodes and officer outcomes will facilitate strategy development aimed at controlling risk factors and reducing the number and seriousness of assault and battery episodes and CO injuries.

For convenience and readability, study episodes will be referred to as assault and battery cases. Note, however, that the events of interest always included battery, but may not have included an overt threat -- that is, an assault.

Chapter 3

Methods

The preceding chapter discussed the importance of individual violence as societal and public health problems, including violent acts occurring in prisons. Theories of individual violence were explored, with the sociological perspective having the greatest utility in studying the problem of assault, battery, and injury of correctional officers by inmates. Because violent acts directed at or involving correctional officers are probably related to multiple causal and contributing factors, as are the officer injuries that result, the Injury Control Model developed by Haddon was chosen as an organizing conceptual framework. This model aids in the identification of factors contributing to an injury event and injury outcome, despite its causal or non-causal role. Documenting event causality or fault does not necessarily lead to the development of strategies that reduce the likelihood of the event and the seriousness of the injury outcome. The model represents an approach that aids in the examination of relevant human, environmental, and situational factors, both contributory, as well as causal, resulting in the generation of control strategies. This is precisely the approach that seems most germaine to the study problem, combined with the theoretical basis provided by the sociological perspective of violence. With this theoretical framework as a foundation for study design, officer, inmate, situational, and environmental factors were explored in relationship to the problem of assault, battery, and injury of correctional officers by inmates.

The following chapter describes the study methods, including a discussion of design, major variables, population, setting, procedures,

tools, and analysis approach. Issues of reliability and validity will be explored as appropriate within each section.

3.1 Design

A population-based epidemiological study of Maryland's Division of Correction (DOC) was conducted from August, 1982 through June, 1983 to determine the incidence of battery (with and without assault, and injury of correctional officers (COs) by inmates. A second objective was to identify risk factors and predictors for officer involvement with inmates in assault and battery episodes with and without subsequent injury to COs. Selected officer, inmate, environmental, and situational variables were examined and will be discussed in the following sections.

A ten-month prospective cohort design was chosen for its utility in accounting for maturational and situational influences occurring during the study period. A prospective design, as compared with a cross-sectional or retrospective design, permitted improved monitoring of the accuracy of DOC-written records, essential in obtaining data regarding battery cases. The study setting included 17 facilities comprising all of the DOC state-operated institutions. Contractual, pre-release facilities not employing correctional officers were excluded. State correctional officers comprised the study population, with 2713 individuals employed as officers at some time during the study period. The study setting and population will be discussed in depth later in this chapter.

Measurement of correctional officer variables was conducted prior to the occurrence of assault and battery episodes that would be classified as study cases, that is those episodes occurring between November 1, 1982 and April 30, 1983 and meeting the definition of a case. A baseline,

self-administered Pre-Questionnaire (Appendix A) was used to examine the importance of selected correctional officer variables in predicting officer involvement and injury from physical confrontations with inmates during the November through April period.

Following completion of Pre-Questionnaire administration, data was collected reflecting the occurrence and content of episode cases. Written records maintained by each institution were used as data sources. Data sources will also be discussed in greater depth later in the chapter.

In order to obtain basic sociodemographic information for the entire cohort of state correctional officers employed during the study period, master personnel file tapes were obtained for three months during the study period - August, 1982; January, 1983; and April, 1983. Tape data included name, sex, race, rank, job classification, institution of employment, date of birth, and date of hire. Officers employed for brief periods of time (i.e., two months or less) during the study period may not have appeared among any of the three data sets (that is, the Pre-Questionnaire, the assault and battery episode data, or the master personnel file data), but they are estimated to be relatively few in number - approximately 30 to 50 individuals. Their risk for assault and battery would be correspondingly low.

The daily inmate census in each institution was obtained, permitting an examination of the relationship between an increasing inmate population and the occurrence of battery episodes involving officers. Average weekday and weekend CO staffing patterns for each month, November, 1982 through April, 1983, were also obtained, thus facilitating the examination of the CO to inmate ratio in relationship to study episode occurrence. A more detailed exploration of the importance of

CO duty post assignment, staffing census and patterns, and inmate social density was not performed as part of this study, but is planned. As part of the subsequent study, self-administered CO post-questionnaires and selected officer interviews administered during May and June, 1983 will be included.

3.2 Description of Major Variables

The following section defines study terms examined as independent and dependent variables. Terms that have legal meanings as defined in local, state, and federal criminal codes may differ somewhat from the codes in their operational definitions.

3.2.1 Independent Variables: Correctional Officers (CO) and Correctional Officer Variables: Correctional officers are male and female employees responsible for supervising inmate activity and maintaining security. Officers are classified as CO I through CO VI, specifically:

CO I - new recruits on probationary status;

CO II - line correctional officers, the working grade;

CO III - sergeants responsible for supervising COs I and II in their duty assignments, such as a cell block post;

CO IV - lieutenants functioning as middle managers;

CO V - captains, also functioning as middle managers;

CO VI - majors, functioning as shift commander or, within a pre-release facility or unit, as a unit commander.

The employee classification for correctional officers also includes specialty categories of officers. They are Correctional Dietary Officer

(CDO), Correctional Maintenance Officer (CMO), Correctional Supply Officer (CSO), and Correctional Recreation Officer (CRO). Officers in these categories are responsible for inmates as well as the trade or role their title implies. These COs supervise inmate crews in accomplishing their tasks. For instance, a CDO prepares meals along with supervising inmates in meal preparation. Progression in rank is competitive and is based on merit and longevity. Merit determinations are based on performance evaluations, position interviews, and a written test score. All classifications and levels of COs come into direct contact with inmates and have as a primary responsibility the security of inmates, staff, visitors, and the facility.

3.2.2 Correctional Officer Pre-Questionnaire: Independent CO variables were measured using a self-administered Pre-Questionnaire prior to the occurrence of study assault and battery episodes (i.e., case episodes occurring between November 1, 1982 and April 30, 1983). {Officer variables were again measured with a similar questionnaire during May and June, 1983, the Post-Questionnaire, but results will not be reported as part of this study.} For the approximately 52% of officers who did not complete the Pre-Questionnaire, but were employed by DOC at some time during the study period, basic sociodemographic data was obtained from master personnel files.

The purpose of the officer Pre-Questionnaire was to establish baseline measurements of selected officer variables. Pre-Questionnaire items ascertained sociodemographic characteristics, anthropomorphic characteristics, general beliefs about corrections and correctional goals, attitudes, beliefs, and behavioral intentions regarding inmates and conflict

with inmates, job satisfaction, life satisfaction, perceptions of role ambiguity, role achievement, and role-related problems, coping responses to job-related feelings, and history of conflict with inmates and battery injuries. Issues of item and scale reliability and validity will be discussed within the chapter section titled "Research Tools". Each of the independent officer variables listed above will be defined as follows:

(1) Self-reported sociodemographic characteristics, specifically age, race, sex, rank, institution of employment, length of employment, marital status, military experience, education, training, spouse's education, spouse's occupation, and number of dependents, were measured by the initial informed consent page and Pre-Questionnaire, items 35 through 48. (See Appendix A.) The first six items were also obtained from the master personnel file tapes.

(2) Self-reported anthropomorphic characteristics, specifically height (feet and inches) and weight (pounds), were reported by the subjects on the Informed Consent Form administered with the Pre-Questionnaire. Because extremes in body size might be related to episode involvement and injury outcome, these items were examined. No attempt was made to validate the data.

(3) Five items representing general beliefs about corrections and correctional goals were measured via the questionnaire as scaled, interval variables. (See Pre-Questionnaire items 6, 13, 14, 15 and 16, Appendix A.) General attitude and goal similarities and differences among those officers who were subsequently involved and not involved in assault and battery encounters with inmates were examined via these items.

(4) Attitudes, beliefs, and behavioral intentions regarding inmates and assault and/or battery encounters with inmates were measured via Likert scaled, interval level, and categorical responses on the Pre-Questionnaire (see Pre-Questionnaire items 7, 8, 9, 21, 25, 26 and 27, Appendix A.) Included were general questions about inmate supervision and punishment along with specific questions asking how best to manage inmate verbal abuse and inmates

fighting and the hows and whys for conflicts with inmates.

(5) Job satisfaction was measured by responses to items one through five on the Pre-Questionnaire. Items one through five are Likert scaled indicators of overall job satisfaction developed by Quinn and Sheppard (1974) for the 1972-1973 Quality of Employment Survey. These items are generic indicators applicable to all jobs. (See Appendix A.)

(6) Overall life satisfaction was measured by two Likert scaled questions on the Pre-Questionnaire (items 11 and 30). These questions were developed by Quinn and Sheppard (1974) for the 1972-1973 Quality of Employment Survey. (See Appendix A.)

(7) Perceptions of role ambiguity, role achievement and role-related problems were measured by responses to Likert scaled and categorical items on the Pre-Questionnaire (items 10, 17, 18, 19, 20, 23, 28 and 29). They included questions about the clarity of their role, and the directions they received from different administrative levels. CO's perceptions of their ability to meet role responsibilities were also examined.

(8) Coping responses to job-related anger, anxiety and unhappiness were measured by yes/no responses to positive, neutral, and negative coping methods. (See item 12, Pre-Questionnaire, Appendix A.) Job-related feelings were defined as those feelings the CO experienced as a result of his/her job. Coping choices included talking with friends and spouse, hobbies, sports, physical labor, sleeping, drug use, alcohol use, internalizing feelings, denying the importance of the job problems, strict rule enforcement, acting more harshly with inmates and/or fellow COs, becoming ill, and taking time off from work.

(9) Self-reports of verbal abuse, assaults, and battery by inmates and physical injuries from inmate confrontations were also examined. (See items 32 through 34, Pre-Questionnaire, Appendix A.) The history of prior conflicts with inmates and its predictive relationship to future encounters were examined via these three items.

3.2.3 ***Inmates and Inmate Variables:*** Inmates are male and female adult offenders convicted of felony charges and incarcerated in a Maryland state correctional facility for a minimum period of one year. Maximum sentences include life imprisonment and the death penalty. The status of adult offenders is defined by the court on a case by case basis and includes individuals in their teens.

The characteristics of inmates involved in battery encounters considered included:

(1) Sociodemographic characteristics; specifically age, race, sex, housing assignment, sentence length, and sentence time remaining.

(2) Legal Dangerousness Scale (LDS) score, a Guttman-like scale developed by Steadman and Cocozza (1973). The scale is based on the inmate's criminal history, specifically juvenile adjudication, number of previous incarcerations, past violent crime convictions, and current offenses. A summary score is given ranging from one to fifteen. A score of five or more is considered high, indicating dangerousness. (See Appendix B.)

(3) Division of Correction (DOC) security classification, reflecting the state's judgement of the inmate's dangerousness and progress through the system. Classification is a function of criminal history, sentence length, sentence time remaining, and current behavior. Security classes include maximum, medium, minimum, and pre-release status. The inmate's assignment to institution and housing locations along with the activities permitted are a reflection of security classification.

3.2.4 ***Situational and Environmental Variables:*** Time, place, and selected situational factors relevant to assault and battery episodes (with and without assault) between COs and inmates are considered in the context of possible contributory variables. They include:

(1) Time and date of the battery episode;

(2) Initial site of the episode;

(3) Primary site of the episode, that is, the location where a majority of the action occurred;

(4) Institution, including all prison and community facilities operated by the Division of Correction and staffed by state COs;

(5) Valence of the event activities, that is the initial direction of the conflict such as an inmate fighting an inmate or an inmate attacking an officer, and the numbers of COs, inmates, and others involved;

(6) Initial event which precipitated the battery episode and the most serious event outcome in addition to the battery encounter (eg., stealing, escape attempt, withholding contraband);

(7) Weapons used by CO(s) and inmate(s) including body parts and exogenous objects such as knives and furniture;

(8) Principal and secondary methods of control by officer(s) of inmate(s) such as verbal communication, physical restraint by one CO, and chemical MACE;

(9) Substance abuse by an episode participant, including alcohol, solvents, drugs, and other consciousness-altering agents. Terms commonly used in prison to describe these substances include jump steady, hooch, grass, and fermented juices; and

(10) Primary and secondary participation by an officer in an event. Primary participants are those officers initially involved in an event. Secondary participants provide backup support. All participants must be physically involved in the encounter, thus excluding as participants those COs who only witness an event. (See Appendices C and D - Assault and Battery Episode Coding Key and Form.)

3.2.5 Dependent or Outcome Variables: Officer Battery Involvement With and Without Injury and Additional Episode Outcomes: The dependent variables examined in the study were:

(1) All battery with and without assault of correctional officers by inmates occurring between November 1, 1982 and April 30, 1983. Battery is defined as "blows struck with and without a weapon, forcible sexual behavior, and events in which matter was thrown or ejected and struck another person" (Dietz and Rada, 1980). Physical conflict between officer(s) and inmate(s) occurs. In contrast, a simple assault is a threat of personal violence conveyed verbally or by action. When battery also occurs, the threat has been acted out in some manner. **Assault and battery** and **battery only** involving both inmate(s) and officer(s) meet the definition of a **study case**, becoming a unit of analysis. **Officers** involved in battery episodes (with or without assault) with inmates are the primary unit of analysis (i.e., battered/not battered - a dichotomous variable). In addition to the battered/not battered classification, each officer has a cumulative involvement score for the study period ranging from not involved (0) to involved in five or more case episodes (5+).

(2) All officer injuries due to a battery encounter with an inmate(s) between November 1, 1982 and April 30, 1983. Officer injury is defined as physical harm, such as a laceration or fracture, to a CO as a result of the officer's involvement with an inmate(s) in a battery or assault and battery episode. Injury has been measured for battered officers as a dichotomous variable - injured/not injured. There were no deaths to officers as a result of assault and battery by inmates during the study period, November 1, 1982 through April 30, 1983.

(3) Episode outcome by overall direction of the event and injury outcome to the officer(s). Episode outcome categories include conflicts between inmates necessitating an officer's physical use of force to terminate the encounter as well as physically aggressive behavior directed at officers by inmates. Both situations may or may not involve officer injury. An "other" category was also included to account for episodes that involved the physical involvement and use of force by officers, but the direction of the aggressive inmate activity was not towards inmates or officers. For example, these "other" events included several escape attempts. Episode

outcomes are measured as categorical variables. (See Appendices C and D - Assault and Battery Episode Coding Key and Form.)

3.3 *Population*

The study cohort included all correctional officers employed by Maryland's Division of Correction (DOC) during August 15, 1982 through April 30, 1983. During this period there were 2435 budgeted positions; 2713 officers filled these positions at some point in time during the study period. The Division of Correction personnel department estimates that at any point in time 85% of the CO positions were occupied. The proportion of specialty CO positions filled was usually higher - about 95%. The total number of COs in the workforce at any given time was about 2070 to 2120 individuals. Attrition among guards was fairly high, although the exact rates were not known. Estimates place attrition figures at 23% to 28% during August, 1982 through April, 1983 system-wide. Table 3.1 displays the distribution of the budgeted guard force by officer classification and institution.

With lost time for regular leave, vacation, holidays, personal days, and illness, DOC estimates the average number of days worked per CO per year at 217. During an average 24 hour period, given 2100 filled positions, there were approximately 1260 officers working. This estimate was confirmed by a sample of daily duty roster assignment schedules for each institution. (See Table 3.3.)

Sociodemographic characteristics of the officer cohort were not known precisely by DOC prior to the study. Based on Pre-Questionnaire and Informed Consent form data, representing 1378 of the 2100 filled positions (65.6%) system-wide, the officer workforce had the following

Table 3.1

Maryland's Division of Correction
Correctional Officer Distribution
(Budgeted Positions)

Institution	CO	CDO	CMO	CRO	CSO	Total
Maryland House of Correction (MHC)	352	16	12	2	9	391
Maryland Correctional Institution - Jessup (MCIJ)	219	9	4	1	1	234
Maryland Correctional Institution - Women (MCIW)	92	5	0	0	3	100
Maryland Penetentiary (MPEN) *	323	17	9	2	3	354
Maryland Reception, Diagnostic and Classification Center (MRDCC) **	246	5	5	0	2	258
Maryland Correctional Training Center (MCTC)	313	10	13	2	3	341
Maryland Correctional Institution - Hagerstown (MCIH)	311	9	7	2	6	335
Brockbridge Correctional Facility (BBCF)	152	8	2	1	2	165
Jessup Pre-Release Unit (JPRU)	40	2	0	1	0	43
Baltimore Pre-Release Unit (BPRU)	24	4	0	0	0	28
Women's Pre-Release Unit (PRUW)	6	0	0	0	0	6
Emergency Housing Unit/ Roxbury/Butler Building (EHU)	59	2	0	0	0	61
Sykesville Central Laundry (CL)	28	4	2	1	1	36
Poplar Hill Pre-Release Unit (PHPRU)	29	3	0	0	0	32
Eastern Pre-Release Unit (EPRU)	22	3	0	0	0	25
Southern Pre-Release Unit (SMPRU)	23	3	0	0	0	26
TOTAL	2239	100	54	12	30	2435

* Includes COs assigned to University Hospital.

** Includes COs assigned to transportation division.

characteristics:

(1) Average age = 35 years; median age = 33 years; range = 18 to 69 years;

(2) 58% white, 41% black, 1% other racial groups;

(3) 90% male, 10% female;

(4) Education: less than high school diploma or G.E.D. = 2%; high school diploma = 41%; some college = 45%; and bachelor's degree or more = 12%;

(5) Marital status: single = 21%; married first time = 46%; married more than once = 15%; widowed = 1%; divorced first time = 15%; divorced more than once = 2%; and

(6) Average length of employment = 6 years, 5 months; median length of employment = 4 years; range = 5 days to 43 years.

A more complete, but less comprehensive, representation of the sociodemographic characteristics of the officer cohort was obtained from the master personnel file tape, providing information for 2713 individuals. Sociodemographic data included age, race, sex, rank, institution of employment, and date of hire (i.e., length of employment).

The average age of the cohort was 36, with a range of 19 to 76. The mode was 32 years and the median was 33 years. Master personnel file age patterns were slightly different from those COs completing the baseline questionnaire.

There were 1377 white officers (53% of CO cohort) and 1238 black officers (47% of CO cohort). Racial characteristics for 98 officers were unknown. Less than 1% of officers were of a racial/ethnic minority not categorized as black. A moderately greater proportion (9%) of white officers completed the questionnaire than black officers, when compared to the cohorts' racial makeup (chi-square = 21.81; D.F. = 1; p = .0000).

Female officers numbered 308 (12% of CO cohort) while males accounted for 2307 officers (88% of CO cohort). Again, data was missing for 98 officers. Seven percent more men than women completed the questionnaire (chi-square = 5.65; D.F. = 1; p = .0175).

The distribution by rank for officers was as follows: CO I = 511 (19.5%); CO II = 1483 (56.7%); CO III = 255 (9.8%); CO IV = 130 (5%); CO V = 65 (2.5%); CO VI = 27 (1%); CDO = 98 (3.7%) and CMO = 46 (1.8%). Correctional recreation and supply officers (CRO and CSO) did not appear on personnel tape data made available by the state. Only 25% of CO Is completed the questionnaire. This finding is reasonable, given that CO Is are recruits. Many CO Is probably entered the workforce after the questionnaire was administered. Only 30.6% of CDOs (30) and 23.9% of CMOs (11) completed the questionnaire. Because of odd work shifts and/or their location within the various institutions, these individuals were very difficult to contact.

CO distribution by institution of employment is displayed in Table 3.2. Compared in this table are CO distribution by number and percent of budgeted positions, number and percent accounted for by the master personnel file (i.e., employed at a specific institution sometime during the study), average number and percent of institution workforce on duty each day, and number and percent difference between budgeted positions and employed individuals during the study (a measure of attrition).

The length of employment characteristics for cohort COs based on date of hire did not differ significantly from the pattern reflected by those officers completing the questionnaire. The average length of employment was 80.0 months, the median was 45.0, and the mode was 27.0. The range of employment time was 0 months to 423 months.

Table 3.2: Correctional Officer Distribution by Institution of Employment (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	Budgeted CO Position[1] No.	(%)	COs Employed During Study No.	(%)	Diff. Between Columns 1 and 3 No.	(%)	Daily Avg. No. COs on Duty
MHC	380	(15.9)	458	(16.9)	76	(21)	198
MCIJ	232	(9.7)	250	(9.2)	18	(8)	118
MCIW	97	(4.1)	110	(4.1)	13	(13)	51
MDP[2]	349	(14.6)	445	(16.4)	96	(28)	179
MRDCC	256	(10.7)	256	(9.4)	0	(0)	131
MCTC	336	(14.0)	448	(16.5)	112	(33)	172
MCIH[3]	327	(13.7)	338	(12.5)	11	(3)	170
BBCF	162	(6.8)	408	(15.0)	-8	(-2)	83
PRU[4]	254	(10.6)	408	(15.0)	-8	(-2)	130
Totals	2393	(100.0)	2713	(100.0)	318[5]	(13)[6]	1232[7]

(1) Includes CO, CDO, CMO; does not include CRO and CSO (42 individuals)
(2) Includes University Hospital locked ward
(3) Includes Roxbury Unit
(4) Includes all Pre-Release Units
(5) Number of COs in excess of budgeted positions during 10 months of study
(6) Percent of COs in excess of budgeted positions during 10 months of study-attrition actually was about 10 to 15% higher, based on the DOC estimate of 85% of budgeted positions filled at any given time; overall DOC attrition during study period was 23 to 28%
(7) Excludes specialty categories of COs (CDO, CMO, CRO, CSO) for a total number of budgeted positions = 2239

Correctional officers employed in the Hagerstown area differed from their colleagues in terms of racial and sexual characteristics; there were only four blacks and one female employed at Hagerstown when the study began for a workforce of 737 budgeted CO positions. The distribution of officers by race and sex in the Jessup and Baltimore facilities was approximately 45% white/54% black and 85% male/15% female. A specific breakdown of sociodemographic characteristics by institution will be included in the chapter on study results.

In addition to racial and sexual configuration differences within the study population by worksite, rural versus urban orientation was also a meaningful characteristic. Those COs working at facilities located in Hagerstown (MCIH, MCTC, EHU), Sykesville (CL), Quantico (PHPRU), Church Hill (EPRU), and Charlotte Hall (SMPRU) live in a rural and small town environment. Those officers working at a Baltimore facility (MPEN, MRDCC, BPRU, PRUW) predominantly live in an urban area (Baltimore). Those COs working at a Jessup facility (MHC, MCIJ, BBCF, JPRU, and MCIW) live in primarily suburban environments in the greater Baltimore metropolitan area. Officers and DOC administrators view staff value systems as somewhat different between these groups, with the Hagerstown group adhering more to a traditional work ethic. The Hagerstown group is also at greater ethnic and racial variance with the inmate population composed of 73% black, urban males. (See later discussions of institutional characteristics in Chapter 4, Section 4.1.1.)

3.4 Setting

The study setting included all adult correctional facilities administered by Maryland's Division of Correction and staffed by state

employed correctional officers. Excluded from the study were local and county jails, juvenile institutions, Patuxent Institution, and contractual pre-release facilities. Maryland's prisons vary widely in architectural characteristics and locations, from circa 1810 to 1981 in urban, suburban and rural settings. Using 60 square feet per inmate as the accepted standard (ACA Standards) for housing requirements, Maryland prisons rank among the top 30% in the nation for overcrowded conditions.

Maryland Penitentiary (MDP), the state's maximum security institution for offenders considered dangerous and/or serving long sentences, was built in 1810. The penitentiary was built of stone and mortar with original walls 12 feet thick. The prison resembles a fortress and is known by insiders as "The Pen". It is crowded, noisy, drafty, and dirty. Its internal layout resembles a giant maze. Environmental control of pests, temperature, humidity, and lighting is lacking, with many housing areas reported by inmates and staff as very hot in the summer and cold in the winter. Rodents, insects, and birds commonly co-exist with inmates and staff. The rated capacity of the penitentiary is 1053 inmates; during the study the resident inmate population was about 1598. Much of the space formerly used for recreation and trade shops has been converted for use as inmate housing areas to accommodate the increase in the inmate census.

The Maryland House of Correction (MHC), known by staff and inmates as "The Cut", was built in 1870 and is primarily a medium security prison. It, too, lacks environmental controls and is overcrowded, with a rated capacity of 1406 and a resident population of about 1627. However, the House of Correction is the only prison in Maryland still maintaining single, rather than double cells as a result of a federal court order.

Approximately 100 segregation beds are assigned to MHC, meaning that inmates locked in 23 to 24 hours per day for serious rule infractions for periods of three months to one year are housed here. Offenders with segregation sentences of one year or more are sent to the Maryland Penitentiary or the Maryland Correctional Institution-Hagerstown. In addition to the main institution, MHC includes trailers located within the compound housing minimum security inmates. Trade shops staffed by state use industry personnel and inmate apprentices are also located within the MHC compound.

The state's most modern prisons, with the exception of the Roxbury Correctional Institute in Hagerstown, circa Fall, 1983, are the Maryland Reception, Diagnostic and Classification Center (MRDCC) in Baltimore and the Maryland Correctional Institution - Jessup (MCIJ) in Jessup. MRDCC is a seven-story highrise, maximum security facility adjacent to the Maryland Penitentiary. All newly sentenced inmates are processed here upon incarceration in the state prison system. The average inmate stay is three months. Inmate housing is primarily double cells. The official rated capacity is 400 inmates, while the average operating number is 747. Though the facility is clean and has adequate environmental controls, officers often express a sense of isolation when assigned to housing units on the evening, and, especially, the night shift. During a large part of this time, the CO's only contact with colleagues is via radio.

Maryland Correctional Institution - Jessup is an open-air, decentralized, medium security prison. Eight housing pods, each with a central core and two bi-level wings housing a total of 923 inmates in double cells, are located within a ribbon-wired compound. The rated capacity is 512. Administrative, dietary, recreational, educational and

trade shop facilities are located within the compound. The setting encourages staff and inmates to be outside frequently, a beneficial feature except during inclement weather.

Maryland Correctional Institution - Hagerstown (MCIH), circa 1930, and the original Roxbury Unit, have a rated capacity of 803 inmates and housed about 1472 inmates during the study. Though housing areas may be drafty at times because of broken windows and architectural features, environmental control of temperature and pests is much superior to the Maryland Penitentiary and the Maryland House of Correction. The institution is basically clean. MCIH is a medium security facility and, also, a regional segregation center. With 443 segregation beds, MCIH housed twice the number of like inmates as the Penitentiary and four times the number as the House of Correction. Its Roxbury unit houses minimum security inmates. As with the Maryland Correctional Training Center (MCTC) located a quarter of a mile away, the setting is rural. Hagerstown, the county seat, is 8 miles distant.

Maryland Correctional Training Center (MCTC), built in the late '60s on 35 acres, is the largest Maryland prison. Housing inmates estimated to be less dangerous generally than those incarcerated at the Maryland House of Correction, the Maryland Correctional Institution - Hagerstown, and the Maryland Penitentiary, MCTC is classified as a medium security prison. It also houses minimum security inmates within its compound-- in this situation in "quonset huts". Its officially rated capacity is 1702. MCTC's operating inmate census during the study averaged 2379. Housing is primarily double-celled tiers located in buildings holding 260 to 312 inmates. The "quonset huts" are large, open, double bunk dorms each housing 140 inmates. Inmates with short term (i.e., less than 3 months)

segregation restrictions are housed in about half of the housing units with cells. As with the Maryland Correctional Institution - Jessup, other institutional operations and facilities, such as the gymnasium and dining hall, are located in other buildings within the compound. Distance between buildings within the compound is a consideration in emergency situations.

Maryland's only prison for female offenders is located in Jessup - Maryland Correctional Institution for Women (MCIW). Within a secured compound, old and new administrative buildings and four housing cottages comprise the institution. The older buildings were built in 1934 while the newer administrative unit was completed in the late 1960s. Inmates housed here include those of all security classifications, from maximum to pre-release status. The rated capacity is 258 inmates while the operational census during the study period averaged 345. In addition to MCIW, a 32 bed pre-release community center for women is located in Baltimore (PRU-W). This center housed an average of 25 women from November 1, 1982 through April 30, 1983. During the first three months of the study, six to eight women were also housed at the Baltimore Pre-Release Unit (BPRU).

Brockbridge Correctional Facility (BBCF) and Maryland Correctional Pre-Release System (PRS) comprise the remainder of the study facilities. BBCF contained 302 minimum security and 228 medium security beds located in 11 open dormitories in a two story brick facility, circa late 1960s. The administrative building, housing inmate classification and adjustment officers along with the warden and assistant wardens, is located outside of the compound. Support services, such as education and trade shops, are located in the other building within the compound. BBCF's rated capacity is 512 while its operational number averaged 530

during the study.

The Maryland Correctional Pre-Release System (PRS) is composed of decentralized community-based centers with locations on the Eastern Shore (2), in Southern Maryland (1), Jessup (1), Hagerstown (1), Sykesville (1), and Baltimore (2) housing minimum security (515) and pre-release status (628) inmates. The rated capacity is 1107. PRS facilities are, for the most part, clean and wellmaintained with adequate environmental controls. Most of the inmates in these facilities are working in a community-based job, learning a skilled trade, and/or attending high school or college. All facilities are one story, multiple building or unit structures with grounds fenced in only for the minimum security sites (i.e., JPRU, CL, EHU, MCTC). Open dormitories characterize inmate housing. Most of these facilities were built in the late 1960s and early 1970s.

The total inmate census within the Department of Correction system, excluding contractual pre-release units and the Patuxent annex, averaged 10740 inmates, with a range of 9261 to 11743 during the study. In addition to environmental differences site by site, Maryland's prisons vary in administrative style and milieu. The descriptive statements that follow are based on observations made during the study.

The pre-release units located on the Eastern Shore and in Southern Maryland are fairly cohesive, homogenous work groups with control, both administrative and operational, resting with the unit commanders (majors) and their captains. These general characteristics are also true for the Hagerstown institutions, though at the Maryland Correctional Institution - Hagerstown and the Maryland Correctional Training Center the cohesive workgroup unit is the shift. Each shift reflects the management style of the major in charge, with some shift commanders more "controlling" than

others. Operations throughout these facilities tend to be more organized and efficient than elsewhere in the system. Differences in operational efficiency are especially evident in the classification, counselling, and clerical departments. The Maryland Correctional Institution - Jessup and the Maryland Reception, Diagnostic and Classification Center are also noted for their well-organized and efficient operation. Based on discussions with COs during the administration of the Pre-Questionnaire, the feelings among COs tend to be more positive in the Pre-Release and Hagerstown facilities than elsewhere. However, COs throughout the Department of Correction express the sentiment that "nothing ever really changes or improves" in corrections and that "control of inmate behavior" should be stricter.

Some institutions seem to be characterized more by cohesive officer subgroups between shifts and within shifts. At times, these groups are at odds with each other and/or with the warden of the institution. This pattern was most evident at the Maryland Penitentiary, and, to a lesser extent, at the Maryland House of Correction, the Maryland Reception, Diagnostic and Classification Center and the Maryland Correctional Institution - Hagerstown. Towards the end of the study, this pattern had begun to emerge at the Maryland Correctional Institution - Jessup. Complaints of favoritism in post assignments, and, especially, promotions were voiced by some COs to the researcher during unstructured interviews.

As with any bureaucracy, some upper- and middle-level managers were better liked than others. Frequent changes in administration at the warden, commissioner and secretary levels describe Maryland's Division of Correction and the Department of Public Safety and Correctional Services. These positions are filled as political and administrative appointments.

For example, between 1978 and 1981 there were three different commissioners of the Division of Correction. During the 1979 to 1982 time period there were three wardens at MHC. Not only do administrative styles and support personnel change, but correctional philosophies as well.

The Division of Correction (DOC) has two unions representing correctional officers - the American Federation of State, County, and Municipal Employees (AFSCME) and the Maryland Classified Employees Association (MCEA). Neither union has contract negotiation or binding arbitration privileges with the state. Both unions and DOC administration have experienced a long-standing distrustful and adversarial relationship. Competition between the unions is intense, with little coordination of activities or joint cooperation. During informal interviews, many COs expressed that their union was their only safeguard from punitive or arbitrary administrative methods and disciplinary actions. COs frequently belonged to both unions to enhance their representation. Many officers felt caught between inmates and administration in attempting to deal with the day to day problems within the prison.

In contrast, many middle- and upper-level administrators felt the unions were uninformed about issues and often represented individual officers to the detriment of the institution's and prison system's welfare. Especially in Baltimore and Jessup, administrators felt that a majority of the guardforce misused employee benefits, with excessive use of sick time and accident leave occurring. Common respect between officers and administrators at the Baltimore and Jessup facilities in particular was often not in existence.

The court system also has had an impact on the Division of Correction (DOC), determining numbers incarcerated, hearing numerous

inmate suits, and setting condition and services standards. Unfortunately, the standard for housing space per inmate has not been met because of tremendously overcrowded conditions, with the exception of one institution. The Maryland House of Correction is currently under federal court order to refrain from double celling as a means of reducing overcrowded conditions. One expert feels setting policies and standards through litigation is not the most appropriate and carefully thought-out method of shaping long-term correctional strategies (Gottfredson, 1984). The system-wide elimination of crowded conditions is not attainable until about 1990 at the earliest, if growth trends continue (i.e., total inmate population increase of 125 per month) and building plans are completed on schedule (DOC Projections 1984).

The following table lists each institution, its rated capacity and its operational inmate census. Segregation, protective custody, minimum security, and pre-release security beds are noted as appropriate for each institution (see Table 3.3). The terms segregation, minimum security, and pre-release security have been defined earlier. Inmates held in protective custody are those individuals who are felt to be at risk of injury or death in the general inmate population. All institutions except those in the pre-release system house protective custody (PC) inmates. PC inmates are housed in double cells, do not mix with the general population, and have limited exercise and recreation opportunities (i.e., one hour per day).

3.5 *Procedures*

The following section describes the procedures used in conducting the study. For organizational purposes, the discussion will follow a chronological sequence of activities beginning with the Fall of 1981 and

Table 3.3: Maryland Division of Correction Average Population Capacities November 1, 1982 to April 30, 1983

Institution	Offic. Rated Capac.	Actual Oper.	Spec. Conf. Popu.(1)	PC Popu.(2)	Minimum Secu. Popu.	Pre-Release Popu.(3)
MPEN	1053	1598	290	79	0	
MRDCC	400	747	32	13	6	
MHC	1406	1627	95	79	75	
MCIJ	512	923	42	29	8	
MCIW	258	345	4	4	25	0
MCIH(4)	748	1423	443	89	8	0
MCTC	1702	2379	78	31	157	17
BBCF	512	530	15	5	302	8
PRS	1107	1168			515	657
Total Inmate Census	7785	10740	999	329	1151	822

Resident Population - Inmates who are physically present in the inst. regardless where located.
Count-Out Population - Inmates who are in custody of a Non-DOC Agency (Non-DOC Hospitals, Sheriff's Office
Total Population - Total Institutional Count

(1) Spec. Conf. - Special Confinement Population (segragation)
(2) PC - Protective Custody population
(3) PRS Units - Pre-Release Units Population
(4) Includes Roxbury Unit

concluding in March 1984 with the completion of data collection.

Refinement of the study problems and development of the baseline questionnaire began in the Fall of 1981. Based on personal experiences as a clinician and consultant in a variety of correctional settings and following discussions with criminologists, forensic psychiatrists, and correctional staff (administrators, union representatives, and line officers), the basic research questions were refined and variables that might help to explain or predict violence involving correctional officers were identified. From the discussions noted above, a variety of officer, inmate, environmental and situational variables seemed potentially related to the initiation, progression, termination, and outcomes of non-collective violence involving officers and inmates. With completion of a literature survey and selection of the theoretical basis and framework for the study, variables were chosen for future exploration. As noted before, the dependent or outcome variables of interest were officer involvement in battery encounters with inmates and officer injuries as a result of these encounters.

Expert input was obtained during the next two steps -- formulation of the study design and construction of the measurement tools. Researchers in the corrections field and correctional staff cautioned about the variability in procedures, administrative and operational practices, record keeping, and events within and between prisons, with potential impact on the occurrence, documentation, and interpretation of assault and battery cases. It was also felt that many of the officer variables to be explored had not only the potential to influence involvement in battery encounters with inmates, but to be subsequently shaped by these encounters as well. For these reasons, a prospective study design was chosen.

Two major research tools were developed as a means of measuring study variables -- the CO baseline, pre-questionnaire with informed consent form and the assault and battery episode coding key and form. Both tools were reviewed by the experts mentioned earlier, with directions to consider the appropriateness, importance, completeness, and clarity of the tools. Input was also obtained from researchers skilled in questionnaire construction at The Johns Hopkins School of Hygiene and Public Health.

The officer baseline questionnaire was pre-tested for content validity, clarity, and reliability using volunteer officers from the Baltimore County and City Jails during May and June, 1982. Administrators and union officials (American Federation of State, County, and Municipal Employees) from both facilities were instrumental in encouraging volunteer participation during or following work hours. Volunteers included officer representation from all CO ranks, races, and sexes, with 14 COs from Baltimore County and 35 COs from Baltimore City. According to union officials, officers from these settings most closely resembled and mirrored the concerns of state COs. Pre-testing the questionnaire with officers not employed by DOC prevented contamination of the study population.

Pre-test questionnaires were coded and analyzed. The distribution of responses, question by question, was examined in conjunction with comments made by the pre-test participants. Correlation coefficients were calculated for three scales measuring different conceptual areas -- job satisfaction, power, and role ambiguity. With a reliability coefficient of $r = .83$, only the job satisfaction items reflected an adequate conceptual similarity justifying use as a scale. (The power and role ambiguity items

both had r values of .45 and less.)

Items were added to the power and role ambiguity scales to better measure these conceptual areas and improve their reliability coefficients. However, both scales continued to include general and specific feelings related to the officer's job which may have contributed to lower than hoped for interscale correlations. These tools will be discussed in greater depth in the section titled "Research Tools".

Prior to the administration of the Pre-Questionnaire, a press conference was held to announce the study, its purpose, scope, and funding source. Initiated by the outgoing president of the AFSCME local representing Jessup-area correctional officers, it served to bring recognition to correctional officers, including their occupational health and job concerns, while emphasizing strong support for the study by the unions and the DOC administration. Collective support by all factions of labor and management in the Maryland prison system was, and is, a unique situation and did much to facilitate the study. The press, radio, and television coverage probably facilitated subsequent CO participation in the study, especially as related to the baseline questionnaire.

On August 11, 1982, following advance notification and with the aid of three research assistants, the study was introduced and briefly explained to officers at the Hagerstown facilities during the role call period at the beginning of each shift. (During role call, each scheduled officer is accounted for, given his/her duty assignment, and briefed about prior events and other matters of concern relevant to the prison and DOC.) Standard procedures were followed by the principal investigator and research assistants in explaining the study, answering COs' questions, distributing the Informed Consent Forms and Pre-Questionnaires, and

collecting responses. Verbally and in writing (via the Informed Consent Form), officers were told that the questionnaire would require 10 to 20 minutes to complete and that they could choose, without jeopardy, not to participate if they wished. At the time the questionnaires were distributed, officers were requested to complete their questionnaire prior to discussing items with each other. Officers did not consistently adhere to these guidelines. Based on a review of questionnaires returned after such discussions, variability in responses among discussants did occur.

The questionnaires were distributed at role call or later in the officer's dining room (ODR) during their meal break. Research personnel were available in the ODR through a portion of each shift to answer questions (i.e., about 36 of the 48 hours on site). Of the 1352 questionnaires returned, perhaps seventy-five were completed at home and returned the following day or mailed. The remaining questionnaires were collected in the dining hall or as officers "clocked out" at the conclusion of their shift.

All three shifts at each institution were approached in this standard fashion. At all major institutions, researchers were present for two consecutive role calls for each shift (over a 48-hour period) on two separate occasions. With all the pre-release sites, each shift was addressed once, with follow-up by mail and phone. The second data collection period was scheduled to maximize the likelihood of contacting COs who were *not* on duty during the first collection period. In spite of these efforts, an estimated 10% of those COs actually employed during this period were not on duty during the total time spent at a given facility nor contacted for some other reason (court appearance, transportation detail, training session, etc.).

In total, seven research assistants were used in distributing and collecting the baseline questionnaire and consent form. All research assistants received an orientation to the study and were instructed in how extensively to explain the study and questionnaire. Probable questions that could have been raised (and were asked) by COs were addressed, such as "What are (you) going to do with the questionnaire information?", "Do you work for DOC?", and "What good will come of the study?"

Several factors probably influenced study participation and questionnaire completion. During the second data collection session in Baltimore, a semi-successful inmate escape at the Maryland Penitentiary occurred that disrupted data collection efforts on the first and second shifts on the second day. In the process, four COs were wounded by rifle and shotgun blasts. It is highly probable that this event decreased the number of questionnaires that were returned. Further attempts to obtain questionnaires at that time were inappropriate. The number of questionnaires returned via collection envelopes at the Baltimore institutions and by mail was few -- only about 20.

In the process of obtaining officer questionnaire responses, the researcher was under the impression that, if subpoenaed, study data and identifiers would have to be made available to the court. If asked, the researcher and assistants acknowledged that study responses could be obtained in this manner. However, to minimize this risk, identifiers would be destroyed upon study completion. (Following administration of the second, Post-Questionnaire, in June, 1983, the researcher was informed of a federal law granting immunity from subpoena for studies of this kind funded by the U.S. Justice Department. This information was passed on to all officers. Unfortunately, data collection efforts involving officer

responses had been concluded.) Approximately 20 officers attributed their decision not to participate to fear of subpoena of questionnaire responses.

Other reasons for non-participation cited by COs were skepticism about the study's worth, distrust of what would be done with individual responses, and general disinterest. Of non-participants approached by the researcher, officers either openly refused to participate or failed to return the questionnaire.

Pre-Questionnaire distribution and collection was completed on October 31, 1982. As noted earlier, 1378 questionnaires were returned, for an estimated response rate of 74% of those COs actually approached or 65.6% of those employed at that time. Considering the volatile nature of the work setting and the distrust and vulnerability COs expressed towards inmates and, to a lesser extent, administrators, the response rate was felt to be acceptable.

The second phase of the study centered on all battery episodes (with and without assault) involving inmates and officers occurring between November 1, 1982 and April 30, 1983. Data sources included the following written records:

* Institutional log, kept by the Adjustment and Classification Department of all infractions by inmates for which tickets were issued;

* Infraction tickets, describing the incident including date, time, location, sequence of events, weapons involved, methods of control, comments made, identification of persons involved, and outcomes including injuries. Infraction tickets were written by the officer(s) initially involved in an episode following resolution of the event (same day);

* Adjustment officer's report, including statements made by the involved inmate and witnesses, in his/her own words. The adjustment hearing officer is not a CO, but,

rather, is a member of the adjustment and classification department;

* Adjustment officer's decision regarding the infraction, whether it be dismissal of the charges, probation, or a segregation time sentence;

* Use of Force Report, completed by each CO using force to control an assault and battery incident. In practice, these reports were not consistently used when incidents did not involve an exogenous weapon such as chemical MACE or a shank -- a homemade pick or knife;

* Serious Incident Report, completed if the institution judged the episode to be more serious than usual and publicity about the event was a possibility. The frequency with which these reports were used varied from institution to institution and did not depend on a consistent standard of "episode seriousness"; and

* Supporting investigatory reports and memos, again if the incident was considered serious.

To obtain data on each incident, the researcher began by reviewing the log kept by each institution on all inmate infraction tickets written. The log included all assault and battery episodes reported, though the determination of the "study case" status of the infraction could not be made until the actual ticket was reviewed. For example, assaults are titled a number one, major rule violation. As defined by DOC, assaults include verbal and physical threats as well as actions (batteries). Assault events may not include COs, in which event there exists no "study case". From the institution log, a list of all possible cases was generated and included information on inmates involved, date and time of the incident, and rule infractions cited. Officers involved were sometimes listed on the log, but often it was necessary to determine officer identification from the actual tickets.

The logs were felt to be fairly reliable, being at least the most accurate written record of battery and assault and battery cases for which COs are involved. Discussions with line COs, middle management, and prison administrators supported the assumption that the log accurately reflected 95% to 100% of all study cases occurring and consistently 100% of all cases reported. Those rare incidents that were not reported were either episodes with no injuries involved or situations that COs did not wish known, as with inappropriate actions on their part and/or coercion by inmates or fellow COs.

The researcher discovered only one incident that met the criteria for a case and did not appear on the log. This was a serious incident occurring at MHC in which a Serious Incident Report was generated and the inmate, with his base file, was transferred out of MHC the same day. Serious Incident Reports were consistently compared with the Institutional Adjustment Log to pick up missed cases.

Following the issuing of a ticket, the adjustment hearing officer reviews the case and renders a decision regarding inmate disciplinary action, usually within 96 hours. Cases not heard within this time period are dismissed, unless an extension had been granted. Adjudication of cases is completed fairly rapidly. Once a case decision has been made, the warden reviews each case, including those with non-guilty, as well as guilty, verdicts. All reports of "guilty" cases are placed in the affected inmate's base file. Non-guilty cases are held for about three months (this varied slightly among institutions) and then discarded. Inmate base files had to be reviewed to determine whether an incident was a case and to obtain needed data on the case episode. Non-guilty files were also reviewed to determine if any of those episodes met the criteria for a case.

Only two "non-guilty" episodes were cases, with each of these cases being dismissed because they were not heard within the prescribed time period.

In spite of an orientation period for the three research assistants coding assault and battery cases, coding inconsistencies were identified during early coding efforts. In response to this problem, all coders participated in a rigorous training program and reliability evaluation of the coding key and results. Following coding of twenty cases (with each case being coded independently by each coder), comparison and discussion of the results, and clarification of the coding key, a standardized and reliable coding methodology for the assault and battery data was achieved. The last ten cases in the series of 20 were coded identically by all coders, validating inter-coder reliability procedures. Cases coded prior to this process were recoded.

The Assault and Battery Episode Coding Key and Form (see Appendices C and D) includes variables reflecting data about involved officers and inmates as well as situational/environmental factors. The key's relevancy and comprehensiveness were based on a review of the literature dealing with institutional violence, validation by content experts both within and outside of Maryland's prison system, including line officers and non-correctional personnel, and use in actual coding situations. As a result of the training sessions with the study's coders, and in response to content conveyed by the raw data, four categories were expanded or added. Both the initial site and primary site of the events within the institution were coded. Method of control was expanded to include primary and secondary methods. Participating inmates' roles were obtained, that is, aggressor, victim, or other. The use or non-use of mind-altering substances by an inmate, such as alcohol, was also noted.

Data on involved inmates was obtained at the time their base files were pulled to review infraction tickets and other written records of the event. Inmate data included identification number, age, race, sex, episode role, sentence length, sentence time remaining, injury resulting from the event in question, Legal Dangerousness Scale score, and disciplinary sentence resulting from the case episode. (See Appendix B, the Legal Dangerousness Scale Scoring Key, and Appendices C and D, the Assault and Battery Episode Coding Key and Form.)

Obtaining and extracting data from inmate base files was tedious and time-consuming. Inmates are transferred fairly frequently within the system. Some institutions are less efficient than others in keeping up with filing needs. These factors added to the length of time required to find written records of possible cases and extract needed data, given that all assault and battery reports are eventually placed in inmate files and there is no central source by institution of these records. Consequently, approximately 15 months of data collection was required to obtain data generated over a six month period of time, given the researcher's study resources.

In addition to data obtained via the questionnaires and the written records of assault and battery episodes, the number of COs actually working by shift and institution was extracted from daily CO duty rosters for November 1, 1982 through April 30, 1983. To estimate a range and mean for these figures, a 15% random sample of duty rosters for weekdays and weekends was used. This data provided a close approximation of the number of COs working on a daily basis by institution. In conjunction with the CO daily work census data, daily inmate census data by institution was also obtained. A ratio of COs to inmates by date, shift, and institution

was calculated and compared to the frequency and distribution of assault and battery cases.

Pre-Questionnaire coding began December, 1982 and was concluded in April, 1983. Using a standardized coding key and with coding verification performed by the research assistant familiar with the questionnaire and performing data entry, this process progressed smoothly. Coding checks indicated rare errors, that is approximately ten errors for 1378 records. (Because of missing data on the informed consent form, only 1352 questionnaires were used in data analysis.)

A difficulty in coding episode (case) data was the documentation of participating officers' names. Of the 1180 COs involved in episodes, 26 were never identified -- thus, precluding the linkage of these individuals with their questionnaires, if applicable, and master personnel file data.

To validate the reliability of data entry, 100 questionnaires were re-entered and compared. There was one error in 20,000 keystrokes, with a zero entered (i.e., a negative response) rather than a nine (i.e., missing data). A similar process has been performed with the assault data, again with the reliability of entry confirmed.

Data cleaning involved correcting coding and entry errors (relatively few), clarifying participant's names, correcting spelling errors, and identifying COs' institutional assignments. To assist in this process and to provide basic sociodemographic data on the entire CO cohort, including those COs not completing the questionnaire, three master personnel file tapes were obtained from the State Department of Personnel. These tapes included all officers working for DOC between August, 1982 and April, 1983, with tapes dated August 31, 1982, January 31, 1983, and April 30, 1983. Two tapes for specialty COs, such as correctional dietary officers,

for March and June 1983 were also obtained. CO data obtained from the tapes were name, date of birth, race, sex, date of hire, job classification, rank, and worksite (institution). COs who worked a very short period of time during the study, (such as two months or less), may not have appeared on the tapes. If these COs did not complete an informed consent form and/or participate in an episode case, they may have been missed. As noted earlier, these COs were felt to be few in number and their risk of assault and battery involvement would have been minimal.

Merging data files by identification numbers (for the questionnaire and informed consent form) and by names (for the merged questionnaire file, the assault and battery case data, and the master personnel file) was completed following initial analysis of separate data sets. Much of this process had to be performed manually. The master personnel file tapes were considered to be the most complete and accurate list of COs employed by DOC during the study. However, sociodemographic data for those COs identified via a different data source may have been unavailable. As noted earlier, a total of 2713 COs were identified, representing the DOC population of officers employed during the study.

3.6 Research Tools

Mention has been made within the "Procedures" subsection of the tools used to measure study variables. The following is a discussion of study tools in terms of their reliability and validity and the response rate, when applicable (see Appendix A).

3.6.1 Correctional Officer Pre-Questionnaire: The purpose of the officer questionnaire was to establish baseline measurements of selected

officer variables for the study cohort. Questionnaire pre-testing supported the reliability and validity of the tool (see discussion in "Procedures" section). Questionnaire items measured job satisfaction, attitudes and beliefs about corrections, inmates, methods of dealing with inmates and conflicts, coping strategies, role perceptions, history of prior inmate conflicts, battery injuries, job training, and sociodemographic information. With pre-testing, the items dealing with job satisfaction had a correlation coefficient of r = .83, in line with previous use of this scale by the University of Michigan Institute for Social Research in their Quality of Working Life Survey (Quinn & Sheppard, 1978). These items are a general measure of job satisfaction and do not address specific job characteristics and job-related factors such as salary.

The two items dealing with general life satisfaction and the one item with perception of health status were also drawn from the Institute Survey (Quinn and Sheppard). From the pre-test, these items had a correlation coefficient of r = .78 and demonstrated adequate variation among respondents. As expected, these general indicators of well-being correlated well (r = .81) with the job satisfaction scale.

Other questionnaire items were developed by the researcher specifically for the study and reflected the COs' attitudes, beliefs, and behavioral intentions regarding corrections, the CO role, personal coping patterns, inmates, and the assault and battery problem. Conceptual areas tapped were role ambiguity, power (related to role and inmate conflicts) and behavioral intention regarding inmate conflicts. Pre-test responses supported the clarity and content appropriateness of most of the items. A few additional items were added based on pre-test suggestions. Word changes were introduced for those items that seemed unclear or had

limited variation in responses. Power and role ambiguity items did not have strong correlation coefficients (i.e., r = .54 and .46, respectively) and, therefore, were not used as scales. As noted earlier, additional items were added in hopes of improving the measurement of this conceptual area.

Analysis of the study population's responses to the baseline questionnaire also reflected variation in responses and the utility of the tool in describing the study population. Response variation was especially evident among COs by institution, such as with the job satisfaction items. The job satisfaction items had a correlation coefficient of r = .84 and again correlated with the general life and health indicators at r = .81. Responses to items were not as anticipated in some cases. For example, the researcher expected greater selection of choices with "punish" as a goal in the "mission of corrections" question (see "Findings" for discussion, Chapter 4). The questionnaire response rate was quite good, especially in view of the volatile nature of the setting, fears of litigation, apathy, and mistrust about how and by whom CO responses were to be used. A total of 1352 questionnaires with informed consent were completed for an estimated response rate of 64% to 66% of officers employed during the questionnaire administration periods. Officers working odd shifts, not at role call or not eating in the officers' dining hall may have been missed, along with COs on leave of some kind. If these unavailable officers are excluded, the overall response rate is about 73%.

Written and verbal comments by the study population indicated that they generally felt the questions were clear and appropriate to the study's purpose. One question, however, was confusing to a significant portion of participating COs and was later dropped (i.e., the item was addressing two potential situations simultaneously). Some COs found it difficult to

identify their probable behavior in a given situation because of possible intervening factors. However, when they were encouraged to respond according to the "usual" situation and their "usual" response, they were, for the most part, able to do so. Multiple responses to items requesting a single response were coded accordingly and never represented more than 2.4% of the responses.

3.6.2 ***Legal Dangerousness Scale:*** A second research tool that has been used in the study and discussed in Chapter 2 is the Legal Dangerousness Scale (LDS). Developed by Steadman and Cocozza (1972, 1973, 1974) in an attempt to produce a quantitative, predictive scale based on specific, measurable inmate variables that were thought to be related to future violence, it has been used in prior studies of the criminally insane. The LDS summary score reflects the inmate's history of juvenile adjudication, number of previous incarcerations, any previous violent crime convictions, and current offense (violent or non-violent). Scores range from 0 to 15, with scores of 5 or above ranked as dangerous. The LDS is a Guttman-type scale (Nunnally, 1978) with a coefficient of reproducibility of 90.6 in the original study. More so than most scales, the LDS was found to be related to subsequent criminal activity of released patients. However, as with other predictors of dangerousness or violence, the LDS had a high false positive rate. Its utility in predicting violence in a general adult inmate population, and for CO assaulters specifically, had been unknown. In spite of these limitations, the LDS provided a method of standardizing inmates' criminal history in a single, conceptually meaningful score. The relationship between criminal record, using the LDS, and assault and battery of COs has been addressed in this study. The utility of

the LDS in the inmate classification process will be examined as well (see Appendix B for a copy of the LDS scoring method).

One modification in LDS scoring was made for this study. Inmates convicted of sexual assault in the absence of other forms of violent crimes, such as assault and battery, were not coded as perpetrators of violent offenses. Correctional folklore holds that sexual offenders are not violent once incarcerated. Furthermore, the almost unanimous opinion of corrections staff was that sexual offenders are not dangerous in prison. Since attempting to predict violence within prison was the purpose of using the LDS score, dropping sexual offense as a violent offense affecting LDS scoring was appropriate on an exploratory basis (DOC Interviews, 1981-1982).

3.6.3 Assault and Battery Episode Coding Key and Form: The Assault and Battery Episode Coding Key and Form have been discussed in the "Procedures" section, including issues of reliability. Much of the categorization of variables such as initiating event and episode outcome was based on tools developed by Dietz and Rada in their studies of inmates in a forensic mental health facility (Dietz and Rada, 1980). Additions and modifications in coding selections by category were necessary, but operational definitions were retained (e.g., assault and battery). As appropriate, comparison of findings will be made in the "Summary" chapter. Knowledgeable correctional personnel confirmed the appropriateness and comprehensiveness of the episode variables and the categories for each variable that were used. The episode coding tools accommodated the actual data set. Content validity was supported.

The major outcome variable of interest, battery (with or without

assault) of officer by inmates, was subdivided into five categories to reflect two factors that further described the dependent variable-- the initial direction of the violence and the **injured/not injured** status of the CO. The five outcome categories were: 1) inmate battery of inmate, no injury to CO; 2) inmate battery of officer, no injury to CO; 3) inmate battery of inmate, with injury to CO; 4) inmate battery of officer, with injury to CO; and 5) other (e.g., escape with recapture). Again, all categories must involve some physical exchange of force between inmate(s) and CO(s) to be a case.

Informal interviews of line and supervisory officers validated the basic accuracy and comprehensiveness of the written records in documenting the frequency and nature of study cases. Specifically, the written records of assault and battery episodes involving COs were felt to be inclusive of all or nearly all:

* battery episodes with or without assault that occurred and met case criteria, with perhaps one institution as an exception (see Chapters 4 and 5, "Findings" and "Summary, Limitations, and Conclusions");

* description of sequence and content of events;

* identification of persons involved, unless the incident involved 10 or more COs. All back-up personnel may not have been identified; however, all primary participants seemed to have been listed;

* weapons and control methods used by inmates and officers, with the exception, at times, of the degree and nature of force used by COs;

* time, date, and location(s) of the incident;

* presence or absence of CO and inmate injuries (if not a full description of officer injuries);

* precipitating and contributory events and behaviors. (Inmates' versions of the incidents

were part of the adjustment report. Inmate reports usually differed from CO reports in the interpretation given their own or the officer(s)' behaviors. That is, the inmates justified their behavior and/or de-emphasized the seriousness and/or inappropriateness of their actions. At times, inmates also reported being provoked by officers. Content analysis of statements made by involved inmates reflected a consistent pattern of acting out violently their beliefs that they had been wronged or insulted;

* initial direction or valence of the encounter;

* participants' roles; and

* use of mind-altering substances by inmate(s).

Written records were felt to be basically complete and accurate accounts of the assault and battery episodes, with the exceptions noted above.

3.6.4 ***Abbreviated Injury Scale***: The original study proposal included plans for scaling injuries by maximum severity using the Abbreviated Injury Scale (AIS-80). As the study progressed, the problems with this approach became obvious. The data sources used did not consistently include sufficient information about the nature and extent of the officer's injury. Minor injuries may not have been reported while moderate injuries may have been coded as minor injuries because of insufficient data. Furthermore, the AIS-80, developed for trauma resulting from motor vehicle accidents, does not achieve adequate variation or interval spread for minor and moderate injuries. Consequently, because of data sources and the type of scoring method used, the AIS proved not to be highly useful in differentiating among the injuries that result from battery encounters in prisons. Results will be discussed, including the above limitations, in the next chapter. Plans have been made to re-examine the injury data at a future date (see Appendix C).

3.7 *Analysis*

Analysis consisted of two units or levels, the officer and the episode. Exploring the importance of both officer and episode variables has been facilitated by this approach. Incidence rates for the cohort were calculated using the number of officers employed and the number of officers actually exposed per shift as the denominator. Rates were determined for officers battered and officers injured. Case morbidity ratios, that is the percentage of COs injured as compared to all COs involved in battery episodes, were also calculated. A DOC case morbidity ratio and insititution specific ratios were determined.

Frequency distribution of officer variables along with cross-tabulations by sociodemographic characteristics, institution, and episode variables were analyzed. The principal comparisons were in conjunction with linking baseline CO data (the Pre-Questionnaire and master personnel file data) with episode variables and subsequent outcomes. Outcomes, specifically battered/not battered and injured/not injured are the dependent variables. For example, distribution of assault and battery involvement by age, race, sex, institution, education, training, military history, and length of employment were made. Calculation of statistical significance with p values set at $p = .05$ or less were performed. Because of the categorical or interval level of most of the variables, chi-square, and to a lesser extent, t-tests were generally used to determine statistical significance.

Stepwise multiple regression with multiple predictors of outcome pairs (i.e., battered/not battered and injured/not injured) was used to determine risk models of study variables. Stepwise linear regression was

used in determining the importance of CO, inmate, and officer variables in relationship to the injury experience of battered officers. These methods identified the outcome variance accounted for by the optimal combination of independent predictor variables (Thorndike, 1978; Kerlinger, 1979; Harris, 1975; Cox, 1970). Alpha levels for significance were set at $p = .05$.

Chapter 4

Findings

Expectations regarding the importance of assault, battery, and injury of correctional officers (CO)s by inmates as an occupational health problem were supported by study findings. This chapter is a discussion of these results, including a description of methods, hypothesis testing, and statistical significance. The initial section will present incidence rates for assault and battery episodes, officers involved, and inmates involved. Officer injury rates along with case morbidity ratios will also be included.

The second section will describe sociodemographic characteristics of the correctional officer cohort. They include differences, if any, among involved/not involved and injured/not injured COs by education, marital status, military experience, training, height and weight, length of employment, age, race, sex, and institution of employment.

Variables measured via the correctional officer Pre-Questionnaire, specifically attitudes, beliefs, and behavioral intentions of COs regarding corrections, inmates, and role, are discussed in the third section. Cross-tabulations by selected variables, such as race and institution of employment, will be included.

The fourth section will present findings relevant to the assault and battery episodes that occurred during the study. Three units of analysis were used in exploring episode or case factors -- the episode, the officer, and the inmate. Officers and inmates involved in study episodes were characterized by unique variables that remained stable throughout the study. Unique variables included sociodemographic characteristics,

responses to the Pre-Questionnaire, sentence length, and Legal Dangerousness Scale (LDS) score. Other officer and inmate characteristics and experiences varied with each episode involvement and included factors such as weapon, methods of control, and housing. These latter files are called the inmate and officer cumulative files.

Hypothesis-testing results are presented in the fifth section and are based on the analysis of linked or merged files from all data sets, including officer and inmate unique and cumulative files. Predictive models for two pairs of dependent variables, specifically CO involvement or non-involvement in battery episodes and CO injury or non-injury as a result of episode involvement, are discussed. Models are developed through the use of stepwise multiple regression analysis.

4.1 A Discussion of Incidence Rates and Morbidity Ratios for Correctional Officers Assaulted, Battered, and Injured by Inmates

Study findings proved to be a rich source of information regarding the scope and nature of assaults, batteries, and injuries of correctional officers resulting from confrontations with inmates. As anticipated, the risk to officers of assault and battery by inmates is substantial. Injuries to officers from confrontations with inmates are a major occupational health problem.

4.1.1 Distribution of Episodes and Episode Involvement: During the six months in which study cases occurred, that is November 1, 1982 through April 30, 1983, there were 494 assault and battery episodes (82.3 per month) involving COs and inmates that qualified as study cases. Actively participating in these episodes were 1180 officers, many of

whom were "repeaters". Of the 1180 officers involved, 1154 were identified by name; legible, complete names were unavailable for twenty-six individuals, thereby preventing definitive identification. Data on the episodes relevant to these unidentified individuals was not significantly different from those COs who were identified and they were subsequently not included in the analysis. The number of unique officers involved in study cases was 667, accounting for 27.4% of the 2435 budgeted positions, or 31.8% of the 2100 positions usually filled.

Projecting the rate of CO involvement in assault and battery episodes with inmates for a full year, nearly 55% of the budgeted CO workforce or 64% of the COs actually working at a given time would be at risk of injury because of involvement with inmates in a physical confrontation.

Table 4.1 is the distribution of episodes, officers, and inmates by institution. Table 4.2 reflects the distribution of battery episodes by security classification of DOC institutions. Because of actual operation and inmate characteristics, the distribution of episodes by institution was re-examined after reclassifying MCIH as a maximum rather than medium security facility and BBCF as a minimum/pre-release rather than medium security facility.

The number of episodes in which individual COs were involved ranged from none to eleven during the six month study period. The frequency breakdown of CO involvement in study episodes is presented in Table 4.3; Table 4.4 presents the distribution of CO involvement in battery episodes by institution of employment; and Table 4.5 summarizes in frequent (1-2) and frequent (3+) officer involvement in study episodes.

Institutions with the greatest number and percentage of individuals

Table 4.1

Assault and Battery Frequencies by Institution, including Number and Percent of Budgeted CO Positions, Average Number and Percent of Inmate Census (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	Assault & Battery Episodes #	%	Budgeted CO Positions #	%	Daily Average COs on Duty #	%	Average Inmate Census #	%
MCTC (2)	100	20.2	341	14.0	172	14.0	2379	22.2
MDP (1)	125	25.3	354	14.5	179	14.5	1598	14.9
MCIH (2)	106	21.5	335	13.8	170	13.8	1423	13.2
MCIJ (2)	49	9.9	234	9.6	118	9.6	923	8.6
MHC (2)	46	9.3	391	16.1	198	16.1	1627	15.1
MCIW (1)	15	3.0	100	4.1	51	4.1	345	3.2
BBCF (2)	19	3.8	165	6.7	83	6.7	530	4.9
MRDCC (1)	29	5.9	258	10.6	131	10.6	747	7.0
PRS (3)	5	1.0	257	10.6	130	10.6	1168	10.9
DOC	494	100.0	2435	100.0	1232	100.0	10740	100.0

Security Classification: (1) = maximum; (2) = medium; (3) = minimum/pre-release

Table 4.2

Distribution of Assault and Battery Episodes
by Institution Security Classification
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution Security Classification	Episodes #	%	% of COs
Maximum	169	34.2	29.2
Medium	320	64.8	60.2
Mimimum/Pre-release	5	1.0	10.6
DOC	**494**	**100.0**	**100.0**

Revised Institution Security Classification	Episodes #	%	% of COs
Maximum (with MCIH)	275	55.7	43.0
Medium (without MCIH or BBCF)	195	39.5	39.7
Minimum/Pre-release (with BBCF)	24	4.8	17.3
DOC	**494**	**100.0**	**100.0**

Table 4.3

Frequency of Correctional Officer Involvement with Inmates in Assault and Battery Episodes (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Number of Episodes Per CO	Number of Officers	Percent of Budgeted CO Positions	Percent of COs Employed Sometime During the Study
0	2054	72.6	75.5
1	418	17.2	15.4
2	132	5.4	4.9
3	59	2.4	2.2
4	28	1.1	1.0
5	13	1.2	1.1
6	9		
7	4		
8	2		
9	1		
10	0		
11	1		
	2721	100.0	100.0

Table 4.4

Distribution of Episode Involvement Per CO by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Number of Episodes/CO									
	1		2		3		4		5+	
Institution	{Number (Percent) of Officers by Institution}									
MCTC	78	(63.9)	20	(16.4)	18	(14.8)	1	(0.8)	5	(4.1)
MDP	72	(50.7)	36	(25.4)	11	(7.7)	14	(9.9)	9	(6.3)
MCIH	76	(50.0)	34	(22.4)	18	(11.8)	8	(5.3)	16	(10.5)
MCIJ	43	(68.3)	13	(20.6)	5	(7.9)	2	(3.2)	5	(0.0)
MHC	70	(80.5)	12	(13.8)	4	(4.6)	1	(1.1)	0	(0.0)
MCIW	17	(77.3)	4	(18.2)	1	(4.5)	0	(0.0)	0	(0.0)
BBCF	19	(82.6)	4	(17.4)	0	(0.0)	0	(0.0)	0	(0.0)
MRDCC	35	(72.9)	9	(18.8)	2	(4.2)	2	(4.2)	0	(0.0)
PRS	8	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)

Table 4.5

Frequency of Officer Episode Involvement by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Correctional Officers Involved in:							
	No Episodes		1-2 Episodes		3+ Episodes		Row	Column
Institution *	#	(%)	#	(%)	#	(%)	Total #	(%)
MCTC (3)	322	(71.9)	101	(22.5)	25	(5.6)	448	(16.5)
MDP (2)	305	(68.5)	106	(23.8)	34	(7.6)	445	(16.4)
MCIH (1)	199	(58.9)	98	(29.0)	41	(12.1)	338	(12.5)
MCIJ (4)	187	(74.8)	56	(22.4)	7	(2.8)	250	(9.2)
MHC (6)	372	(81.2)	81	(17.7)	5	(1.1)	458	(16.9)
MCIW (7)	89	(80.9)	20	(18.2)	1	(0.9)	110	(4.0)
MRDCC (5)	203	(79.3)	49	(19.1)	4	(1.6)	256	(9.4)
BBCF/PRS (8)	377	(92.4)	31	(7.6)	0	(0.0)	408	(15.0)
Column Totals	2054		542		117		2713	(100.0)

* Numbers (1) through (8) denote in order of least to most the percentage of repeaters (3+ involvements) from each institution.

Chi-square = 184.7; D.F. = 14; Significance = 0.0; Gamma = -.003

with multiple involvements (3 or more) in physical confrontations with inmates were the Maryland Penitentiary (MDP), the Maryland Correctional Training Center (MCTC), and the Maryland Correctional Institution - Hagerstown (MCIH). These institutions, with 42.3% of CO positions, had a total of 100 (85.5%) of the 117 high risk (3+ episodes) DOC COs battered by inmates. Those COs with five or more inmate confrontations (30 COs or 4.5% of the 667 COs battered) were employed exclusively in the aforementioned institutions. MCIH had 41% of the highest "risk" individuals (5+) but employed about one-third of those COs working in the three institutions.

Institutional characteristics shed some light on the pattern of battery episodes that occur and the number and characteristics of officer involvement in those episodes. The Maryland Penitentiary (MDP) is the maximum security, long-term institution in the state for offenders considered dangerous to society. The Maryland Correctional Institution - Hagerstown (MCIH) is a medium security institution housing the majority of the state's inmates having disciplinary problems and requiring segregation (punishment) housing. The third institution with a high proportion of COs with multiple episode involvements is the Maryland Correctional Training Center (MCTC), the largest prison in the state (average of 2379 inmates) housing the greatest proportion of youthful offenders. One would expect these institutions to have higher rates and/or more serious conflicts between inmates and officers. Both MCIH and MDP use "quick response teams", composed of a fairly consistent group of COs responding to altercations. These factors may contribute to a higher proportion of COs with multiple involvements in battery episodes and a higher number of episodes.

In contrast, other institutions either have inmate populations considered at lower risk and/or differ in staffing and housing characteristics. For example, Maryland House of Corrections has an older, stable population and inmates are housed in single cells (versus double cells) or dormitories. All other Maryland prisons usually assign two inmates per cell. Maryland Correctional Institution - Jessup houses fewer inmates than MDP, MCIH and MCTC and its inmates are usually considered a lower risk population. Maryland Reception, Diagnostic, and Classification Center (MRDCC), the second maximum security institution in the state, is the receiving institution for newly incarcerated inmates. Inmate sentences for the MRDCC population vary from one year to the death penalty and subsequent institutional assignments depend, in part, on current and past offenses and behavior while at MRDCC. Furthermore, MRDCC offers fewer opportunities for inmates to mix in large groups. Consistent, "quick response" officer teams are not characteristic of staffing patterns at MHC, MCIJ and MRDCC. All of these characteristics may account for the relative proportion of COs involved in multiple assault and battery episodes and the distribution of episodes by institutions.

4.1.2 Episode and Involvement Incidence Rates: Using the Division of Correction estimate of 217 for the average number of days worked annually per officer and using the figure of 2100 officers actually filling positions at any given time, there were approximately 3,645,600 hours worked by DOC correctional officers per annum during the study period. Correctional officer incidence rates for assault and battery cases are as follows: 27.3 episodes per 100,000 CO work hours; 65.3 COs involved per

100,000 work hours (counting each, separate episode involvement); and 36.9 unique COs involved (in one or more episodes) per 100,000 work hours.

During this same period of time, there was a median inmate population of 11,012. Inmates are incarcerated 24 hours per day, seven days per week, a per annum exposure to prison events of 8,760 hours per individual. As an aggregate, the Maryland inmate population accounted for 96,465,120 man hours per annum spent in prison during the study. Inmate incidence rates for involvement with officers in assault and battery cases are as follows: 1.0 episode per 100,000 inmate hours spent in prison; 1.5 inmates involved per 100,000 hours spent in prison, including repeaters; and 1.3 unique inmates involved per 100,000 hours spent in prison.

The risk of involvement in assault and battery encounters between officers and inmates is markedly greater for officers, based on hours of exposure (that is, hours spent in prison). Data was not obtained reflecting inmates' participation in assault and battery confrontations not involving COs; therefore, these figures were not incorporated in the risk appraisal for inmates.

Table 4.6 presents incidence rates for officer episode involvement by institution.

4.1.3 Episode Type and Injury Outcome: Distribution and Incidence Rates

4.1.3.1 Episode Type: Assault and battery episodes were further classified according to the initial direction of the confrontation and the injury outcome of the officer(s) involved. Five categories were used --

Table 4.6

Assault and Battery Incidence Rates by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	Ratio CO/Inmate	Standardized Episode Frequency (by DOC Ratio)	Standardized Rate by 100 Budgeted COs	Non-Standardized Rate by 100 Budgeted COs	Non-Standardized Rate by 1000 Inmates
MCTC	.143	158.7	46.5	29.3	42.0
MDP	.222	127.8	36.1	35.3	78.2
MCIH	.235	102.4	30.6	31.6	74.5
MCIJ	.254	43.8	18.7	20.9	53.1
MHC	.240	43.5	11.1	11.8	28.3
MCIW	.345	9.9	9.9	15.0	43.5
BBCF	.311	13.9	8.4	11.5	35.8
MRDCC	.345	19.1	7.4	11.2	38.8
PRS	.220	5.2	2.0	2.0	4.3
DOC	.227	494.0	20.3	20.3	46.0

inmate to inmate conflict, without CO injury; inmate to CO conflict, without CO injury; inmate to inmate conflict, with CO injury; inmate to CO conflict, with CO injury; and other, such as escape attempt not initially involving CO directed conflict. Table 4.7 displays the distribution of episode categories by institution. The most serious episodes are those involving officer injuries. As expected, of episodes beginning as assault and battery encounters directed at COs, a greater proportion of COs were injured as compared with study episodes beginning as inmate directed conflict (32.1% vs. 21.7%).

Overall, 129 (26.4%) of the episodes resulted in an injury to at least one officer. There were significant differences in the proportions of episode categories experienced by each institution. Table 4.8 gives the distribution of episode category according to the direction of the initial encounter by institution. Table 4.9 displays episode category according to the occurrence of officer injury by institution. Differences in type of episode and injury outcome by institution were significant at the $p = .0000$ level.

MHC and MDP were notable in the small proportion of episodes that began as inmate directed conflict. A number of explanations may account for this pattern. Division of Correction personnel point out that MHC had an older, more stable inmate population as compared with other medium security institutions. As noted earlier, MHC inmates were housed in single cells or dormitories. Elsewhere in Maryland, two inmates are housed in cells designed for one individual, a practice known in prison vernacular as "double celling". This practice is thought to be associated with increased prison violence as a consequence of crowding and loss of privacy in conditions of limited space and restricted move-

Table 4.7

Distribution of Battery and Assault and Battery Episode Categories by Institution (# & (% of category))
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Episode Category (Initial Direction of Encounter and CO Injury Outcome)	Institution								Row Total
	MCTC(2)	MDP(1)	MCIH(1)	MCIJ(2)	MHC(2)	MCIW(1)	MRDCC(1)	BBCF/PRS(2,3)	
Inmate to Inmate, without CO Injury	51 (28.8)	28 (15.8)	35 (19.8)	21 (11.9)	10 (5.6)	9 (5.1)	15 (8.5)	8 (4.5)	177 (36.2)
Inmate to CO, without CO Injury	16 (21.3)	65 (38.5)	36 (21.3)	19 (11.2)	22 (13.0)	2 (1.2)	3 (1.8)	6 (3.6)	169 (34.6)
Inmate to Inmate, with CO Injury	10 (20.4)	8 (16.3)	19 (38.8)	2 (4.1)	2 (4.1)	3 (6.1)	3 (6.1)	2 (4.1)	49 (10.0)
Inmate to CO, with CO Injury	22 (27.5)	22 (27.5)	11 (13.8)	5 (6.3)	11 (13.8)	1 (1.3)	6 (7.5)	2 (2.5)	80 (16.4)
Other (e.g., Escape Attempt)	1 (7.1)	2 (14.3)	2 (14.3)	1 (7.3)	1 (7.1)	0 (0)	1 (7.1)	6 (42.9)	14 (2.9)
Totals	100	125	103	48	46	15	28	24	489*

Security Classifications of Institutions: 1 = maximum; 2 =medium security; 3 = minimum/pre-release security. Many of the institutions house inmates with security classifications less than the institution (e.g., MHC houses medium and minimum security inmates).

* 5 missing cases

Table 4.8

Distribution of Inmate to Inmate Initiated Assault and Battery Episodes Versus Inmate to Correctional Officer Initiated Episodes by Institution (Maryland Division of Correction; November 1, 1982- April 30, 1983)

Type of Episode	Institution								
	MCTC	MDP	MCIH	MCIJ	MHC	MCIW	MRDCC	BBCF/PRS	Total
Inmate to Inmate	61 (61.0)	36 (28.8)	54 (52.4)	23 (47.9)	12 (26.1)	12 (80.0)	18 (64.3)	10 (41.7)	226 (46.2)
Inmate to CO	38 (38.0)	87 (69.6)	47 (45.6)	24 (50.0)	33 (71.1)	3 (20.0)	9 (32.1)	8 (33.3)	249 (50.9)
Other	1 (3.6)	2 (1.6)	2 (1.9)	1 (2.1)	1 (2.2)	0 (0)	1 (3.6)	6 (25.0)	14 (2.9)
Totals (category percentage):	100 (20.4)	125 (25.6)	103 (21.1)	48 (9.8)	46 (9.4)	15 (3.1)	28 (5.7)	24 (4.9)	489 (100.0)

Note: Column percents are in parentheses.

Table 4.9

Distribution of Episode Category according to Presece or Absence of CO Injury by Institution
(Maryland Division of Correction; November 1, 1982 - April30, 1983)

Episode Outcome	Institution								
	MCTC	MDP	MCIH	MCIJ	MHC	MCIW	MRDCC	BBCF/PRS	Total
No CO Injury	67 (67.0)	93 (74.4)	71 (68.9)	40 (83.3)	32 (69.6)	11 (73.3)	18 (64.3)	14 (58.3)	346 (70.8)
CO Injury	32 (32.0)	30 (29.1)	30 (29.1)	7 (14.6)	13 (28.3)	4 (26.7)	9 (32.1)	4 (16.7)	129 (26.4)
Other	1 (1.0)	2 (1.6)	2 (1.9)	1 (2.1)	1 (2.2)	0 (0)	1 (3.6)	6 (25.0)	14 (2.9)
Totals (category percentage):	100 (20.4)	125 (25.6)	103 (21.1)	48 (9.8)	46 (9.4)	15 (3.1)	28 (5.7)	24 (4.9)	489 (100.0)

Note: Column percents are in parentheses.

ment.

The MDP also had a somewhat older and more stable population, housing inmates that had been sentenced for long periods of time. However, these inmates were also considered, overall, the most dangerous in the prison system (with the exclusion, perhaps, of those inmates housed in segregation cells at MCIH).

Several correctional officers interviewed during the course of the study felt that the relatively small proportion of episodes beginning as inmate to inmate conflict might in fact be somewhat inaccurate. Both MDP and MHC are old institutions. Large groups of inmates (several hundred) may congregate and roam in designated areas at a given time. These areas along with other architectural characteristics may make it difficult to detect and intervene in many inmate fights. At MHC, some officers also felt supervisors and administrators discouraged the reporting of conflict that was resolved without injury. Administrative personnel denied this trend. It is also possible that the response of the guard force to inmate fights at MDP and MHC is different than that at other institutions, resulting in less use of force by COs.

The institutions with the highest proportion of episodes with CO injuries were MRDCC and MCTC (i.e., 32.1% and 32% respectively). Both institutions have architectural characteristics that tend to isolate individual COs and may, in some situations, delay other COs who might help. This delay in response may contribute to CO injury. MCIH also has a fairly high proportion of episodes resulting in CO injury (29.1%). The proportion of MCIH inmates with segregation sentences (i.e., considered violent and incorrigible) is the highest of all Maryland prisons, perhaps resulting in more violent altercations and, thus, more CO injuries.

Differences in guard force response patterns at the various institutions may also impact on types of assault and battery episodes and injury outcomes.

4.1.3.2 ***CO Injury Outcome:*** There were 1140 officers involved in battery episodes (with and without assault) with inmates for which data was available in evaluating CO injury outcome. Many of these officers are repeaters; however, if they sustained multiple involvements, and as a result, multiple injuries, these outcomes are relevant in the evaluation of the assault and battery event as an occupational health problem. Of the 1140 officers involved, 304 (26.7%) were injured during November 1, 1982 through April 30, 1983. (Again, the 304 officers include COs injured more than once as a consequence of multiple batteries.) Slightly more than one out of every four officers battered by inmates directly or in attempting to control inmate behavior were injured. There were 12.5% of the budgeted workforce, 14.5% of those COs employed at one given time, and 11.2% of those COs actually working sometime during the study injured during the six month study period. Of individual COs working during the study, 251 (9.3%) were injured once, with 39 and 7 sustaining two and three injuries respectively. Based on actual work hours of exposure in the prison setting, there were 7.1 episodes per 100,000 work hours that resulted in CO injury and 16.8 injuries to COs from unique episodes per 100,000 work hours as a consequence of assault and battery conflict with inmates. Slightly more than one in eight COs working in a Maryland Division of Correction prison was injured during the study.

Injuries sustained to COs were primarily minor, as defined by the

Abbreviated Injury Scale (AIS-80). Abrasions, contusions, lacerations, muscle strains and sprains, and, at times, bites describe the usual officer injuries. Occasionally, injuries were more severe and included fractures, deep puncture wounds involving visceral areas, concussions, and severe lacerations. There were no fatal CO injuries due to inmates during the study. The breakdown of CO injuries, using the AIS-80 scoring system, is as follows: minor injury (AIS 1) = 278 (90.3% of injuries); moderate injury (AIS 2) = 26 (8.4% of injuries); and 4 (1.3%) missing cases. More serious injuries may not have occurred because access to highly lethal weapons, such as handguns, was for the most part successfully limited and COs involved in altercations with inmates were usually assisted rapidly by other officers. Actual injuries may be slightly more serious than the above results reflect. Injury descriptions were usually quite sketchy and usually lacked definitive diagnostic information. Scorers were instructed to score injuries based on supportable data rather than conjecture. (See Section 4.2 or Table 4.20 for further findings and discussion relevant to officer injuries and institutional patterns.)

4.1.3.3 ***Inmate Injury Outcome:*** Inmates involved in assault and battery encounters with COs were more likely to be injured than officers as a result of the conflict. These injuries may have been sustained prior to the officer(s)' involvement or as a consequence of involvement. Of the 744 inmates involved in study episodes, 292 (39.2%) were injured. These figures are a count of each inmate's involvement and injury from separate episodes, thereby including multiple tallies of repeaters. Table 4.10 displays inmate episode involvement and injury severity as a result of conflict with COs. Injury descriptions for inmates were fairly

complete -- especially when compared to officer injury descriptions.

Inmates had substantially lower injury rates from episode involvement as compared to COs. However, approximately one of every two and a half inmates involved in a study episode was injured -- a case morbidity ratio of 1 to 2.5. Of participants involved in study episodes, inmates were more likely to sustain an injury as compared to COs involved in the same episode. Inmates battering officers were more likely to be injured than the officers they battered. Note, however, that inmate injuries may have occurred prior to the battery of the officer.

The higher inmate case morbidity ratio may be associated with a number of episode and participant characteristics. These factors will be discussed with the assault and battery episode findings in section 4.3.

4.2 Study Cohort Characteristics

This section is a discussion of the distribution of sociodemographic characteristics of correctional officers by involvement in and injury from battery confrontations with inmates. These factors describe the officers battered by inmates. Sociodemographic variables also contributed to an understanding of the patterns of episode occurrence and injury.

4.2.1 CO Episode Involvement: Findings and Discussion: A number of officer sociodemographic variables were found to be related to involvement in study episodes. Variables relevant to involvement include age, race, sex, height, weight, length of employment, rank, training, institution and history of past verbal abuse, physical assault, and battery injury. Other variables, specifically military history, marital status, and education, were not related to involvement.

Table 4.10

Distribution of Inmate Injuries by Severity of Injury
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Injury Severity	Injury Frequency	Injury Percent	Rate by 100,000 Hours Spent in Prison	Rate per 1,000 Inmates
No Injury	445	59.8	---	---
Minor Injury	265	35.6	.275	24.065
Moderate Injury	24	3.2	.025	2.179
Serious Injury	3	0.4	.004	0.272
Missing Cases	7	0.9	---	---
Total	744	100.0	.304	26.516

4.2.1.1 ***Age:*** As with offender patterns found in studies of community and prison/forensic institutional violence, COs involved in study episodes were more likely to be younger than non-involved COs. Of the 1962 (75.1%) DOC officers **not battered** during the study for whom age data was available, the average age was 36.5. Those 649 (24.9%) COs who were involved in episodes had a mean age of 33.2. Using a separate variance estimate in calculating t values and two-tailed probability, the results were significant at p = .0000, with a t value of 8.54. Table 4.11 summarizes the age distribution of officers involved by institutions. For institutions with significant relationships between involvement and age, the relationship was curvilinear, peaking in the 25 to 34 age group.

4.2.1.2 ***Race:*** Officers involved in battery episodes with inmates were slightly more likely to be white than black (26.6% of white officers versus 23.1% of black officers). With the two Hagerstown facilities, MCTC and MCIH, among the three institutions with the highest involvement incidence rates, and given their almost exclusively white guard force, this finding is understandable. Tables 4.12 and 4.13 summarize the race distribution of officers by involvement and by the frequency of involvement, respectively.

4.2.1.3 ***Sex:*** A significant association between officer sex and involvement was found (see Table 4.12), with males more than twice as likely to be involved. Note, however, earlier comments concerning the differences between male and female duty post assignments in institutions for male offenders. In studies of community violence, females also are less often involved in physical violence. This may

Table 4.11

Age Distribution of Correctional Officers Involved in Assault and Battery Episodes by Institution (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	Age Categories {# and (%) of Category} 19-24	25-34	35-44	45-54	55+	Chi-Square	P Value	Gamma
MCTC	12 (30.8)	68 (36.0)	33 (26.6)	8 (18.6)	4 (10.5)	13.46	.0092	-.267
MDP	8 (36.4)	78 (39.8)	37 (33.2)	11 (22.0)	4 (10.5)	15.61	.0036	-.287
MCIH	12 (37.5)	76 (50.7)	34 (47.9)	10 (22.2)	4 (15.4)	20.69	.0004	-.257
MCIJ *	10 (37.0)	44 (29.1)	8 (20.5)	0 (0)	0 (0)	8.93	.0630	-.372
MCIW *	2 (33.3)	13 (23.6)	6 (27.3)	0 (0)	0 (0)	8.25	.0828	-.443
MHC	2 (8.0)	43 (18.4)	33 (30.0)	3 (6.4)	4 (11.8)	16.76	.0021	.028
MRDCC *	1 (7.1)	26 (21.7)	22 (22.0)	2 (14.3)	0 (0)	2.63	.6222	.029
BBCF/PRS	0 (0)	21 (13.0)	8 (7.5)	2 (2.6)	0 (0)	13.08	.0109	-.448
All Involved Officers # and (%)	47 (7.2)	369 (56.5)	181 (27.7)	36 (5.5)	20 (3.1)			

* = Non-significant findings

Table 4.12

Distribution of Correctional Officer Sociodemographic Characteristics by Involvement in Assault and Battery Episodes with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable		% in Category Involved	(#)	Chi-Square	D.F.	P Value
Sex				34.35	1	.0000
Male		26.7	(617)			
Female		11.4	(35)			
Race				4.21	1	.05
White		26.6	(366)			
Black		23.1	(286)			
Rank				98.05	7	.0000
COI	(recruit)	13.7	(70)			
COII	(line officer)	28.1	(417)			
COIII	(Sergeant)	34.9	(255)			
COIV	(Lieutenant/ supervisor)	33.8	(130)			
COV	(Captain/ supervisor)	33.8	(65)			
COVI	(Major/ shift commander)	7.4	(2)			
CDO	(dietary officer)	7.1	(7)			
CMO	(maintenance officer)	2.2	(1)			
Length of Employment				82.30	7	.0000
< 1 year (1)		13.9	(51)			
1 to 2 years (1)		27.2	(125)			
2+ to 5 years (1)		31.8	(198)			
5+ to 10 years		32.4	(163)			
10+ to 15 years		19.2	(56)			
15+ to 20 years		19.3	(48)			
20+ to 25 years		8.6	(7)			
25+ years		9.3	(4)			

Note: There were 2615 officers for whom sociodemographic data was available (106 missing cases).

(1) Officers employed five or fewer years composed 25.8% (374) of the workforce.

Table 4.13

Distribution of Correctional Officer Characteristics (Age, Sex, Race) by the Frequency of Involvement in Study Episodes (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Characteristic	% of Category Involved (#) 0 Episodes		1-2 Episodes		3+ Episodes		Row Total		Chi-Square	D.F.	P Value	Gamma
Age								(2611)	74.15	8	.0000	-.241
19-24	73.7	(132)	20.1	(36)	6.1	(11)	6.9	(179)				
25-34	70.6	(888)	23.6	(297)	5.7	(72)	48.1	(1257)				
35-44	73.5	(502)	21.8	(149)	4.7	(32)	26.2	(683)				
45-54	88.1	(267)	11.6	(35)	0.3	(1)	11.6	(303)				
55+	91.5	(173)	7.9	(15)	0.5	(1)	7.2	(189)				
Sex								(2615)	37.14	2	.0000	.486
Male	73.3	(1690)	21.7	(501)	5.0	(116)	88.2	(2307)				
Female	88.6	(273)	11.0	(34)	0.3	(1)	11.8	(308)				
Race								(2615)	15.34	2	.0005	.105
White	73.4	(1011)	20.6	(284)	6.0	(82)	52.7	(1377)				
Black	76.9	(952)	20.3	(251)	2.8	(35)	47.3	(1238)				

Note: Based on involved and non-involved officer data (merged, unique CO file).

Table 4.13

CO Attitudes about Corrections/Inmates
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Attitudinal Questions	% of Involved COs in Agreement (#)	% of Non-involved COs in Agreement (#)	Chi-square	D.f	P Value	Gamma
Never Excuse Law Breaker	54.9 (207)	48.6 (443)	12.8	4	.01	-.06
Abolish the Death Penalty	4.2 (16)	5.9 (54)	10.4	4	.03	.22
Do not forget personal insult	22.5 (85)	24.8 (226)	7.6	4	N.S.	-.02
Inmates Benefit From Strict Discipline	84.6 (319)	80.2 (736)	5.3	4	N.S.	-.09
Because of Job, Frequently Angry	55.2 (206)	53.0 (482)	6.2	4	N.S.	-.08
Assault Problem Important	86.9 (326)	83.9 (766)	5.9	4	N.S.	-.11

* Significant at $p < .05$; ** N.S. = Not significant.

Note: Based on unique officer file.

reflect the differences in socialization and behavior patterns of males and females in our society.

4.2.1.4 Height and Weight: For officers completing the baseline questionnaires, self-reported height and weight data was available. Because body size might be an intimidating characteristic, as viewed by inmates, or an attractive characteristic, as viewed by supervisors assigning duty posts (i.e., in detering and/or controlling altercations), these characteristics were examined. Officers involved in assault and battery episodes were more likely to be taller and heavier than non-involved officers, with mean heights and weights being 71.0 inches versus 70.2 inches and 190 pounds versus 184 pounds respectively. Though extreme differences in size between the two groups were not observed, these findings were statistically significant (using a separate variance estimate and two-tailed probability - height: t value = 4.48, p = .0000; weight: t value = -2.82, p = .005). Large size may have been a factor in selecting officers for high risk assignments, such as the "quick response team", or a positive influence affecting officer participation in study episodes.

4.2.1.5 Length of Employment and Rank: The mean length of employment for involved officers was 69.2 months (about 5 3/4 years) as compared with 83.5 months (about 7 years) for noninvolved COs (separate variance estimate t value = 4.66; significant at p = .000 two-tailed). This pattern might partly be explained by age, that is, youth being associated with a shorter length of employment as well as with involvement in study episodes. Length of employment covaries with rank. Duty assignments and the associated risk of assault and battery by inmates also varies with

length of employment, as well as rank, with the most senior and/or high ranking employees being assigned to posts that tend to have less direct interaction with inmates. Newly hired officers with a rank of Correctional Officer I are often assigned to posts considered less risky, unless a seasoned CO can be assigned with them. This duty assignment pattern may help to explain the curvilinear relationship that length of employment and rank display with involvement in assault and battery episodes. (See Table 4.12.) Note, however, that high rank is not associated with decreased involvement until the level of major. This phenomenon may partly result from the tendency of supervisory personnel to respond to altercations in progress in order to provide backup and supervisory support.

4.2.1.6 Training and Other Sociodemographic Characteristics: Correctional officers involved in study episodes did not vary significantly from non-involved officers by marital status, education, veteran status, or military combat history (see Appendix F). There also was no difference among COs involved and not involved by training. "Training" refers to successful completion of the course for COs provided by DOC at the Basic Training Academy during the CO's probationary period; obtaining extra, additional training in handling abusive, manipulative individuals; and/or obtaining additional self-defense training. These variables were measured via the self-administered Pre-Questionnaire, with data available only for those COs completing the questionnaire (N = 1300 ± 3 COs).

Those COs who had been employed by DOC prior to the establishment of the Basic Training Academy (before the 1970's) were

instructed to check a positive response -- that is, they had received training, but in a more informal setting and for fewer total hours. However, a few of the senior officers may have left this question blank or answered "no", thus, affecting the accuracy of the responses to some extent. Table 4.14 displays the cross-tabulations of the training variables with involvement and injury outcome.

4.2.1.7 Summary of Sociodemographic Characteristics by Frequency of Episode Involvement: Tables 4.13 and 4.15 summarize officer sociodemographic characteristics by the frequency of involvement in study episodes.

Youth is positively associated with **frequent** (3+) involvement. Rank and length of employment covary, as expected, and are curvilinearly related to frequent (3+) involvement; peak periods are CO III (sergeants) and two to five years length of employment. As with involvement (involved/non-involved), frequent participation (3+) in study episodes is more likely to be associated with assignment to a rural (Hagerstown) institution. Prior discussions of sociodemographic variables and involvement are relevant to the findings presented above (Tables 4.13 and 4.15).

4.2.1.8 Institution of Employment: The proportion of COs involved also varied by institution of employment. Table 4.16 displays the average number of COs per episode and average number of episodes per CO by institution. (Refer to the first section of this chapter, Table 4.6, for the distribution of episodes and incidence rates by institution. A comprehensive discussion of findings by institution is included in the first section as well.) Table 4.17 displays the pattern of institutional

Table 4.14

Cross-tabulations of Basic Training, Additional Training in Managing Abusive and Manipulative Behaviors, and Self-defense Training by Episode Involvement and Injury Outcome
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Training	Involved COs %	Involved COs (#)	Injured COs %	Injured COs (#)	P Value
Basic Training					N.S. [1]
Yes	30.5	(276)	28.8	(79)	
No	25.4	(92)	29.7	(27)	
No Response		(44)			
Additional Training					N.S.
Yes	29.2	(136)	31.6	(43)	
No	28.7	(233)	27.4	(63)	
No Response		(37)			
Self-defense Training					N.S.
Yes	30.5	(146)	33.6	(49) [2]	
No	28.0	(224)	25.8	(57)	
No Response		(35)			

N = 1300 ± 3; all differences between training variables and involved/injured outcomes were not significant.

1 N.S. = Non-significant finding

2 Those COs who had additional self-defense training seemed to be slightly more likely to be injured; however, this observation could have occurred by chance (p = .1080).

See Table 4.36 of this chapter for the analysis of Self-defense Training by Injury Outcome, based on the cumulative CO file.

Table 4.15

Distribution of Correctional Officer Characteristics (Rank and Length of Employment) by the Frequency of Involvement in Study Episodes (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Characteristic	% of Category Involved (#) 0 Episodes		1-2 Episodes		3+ Episodes		Row Total		Chi-Square	D.F.	P Value	Gamma
Rank								(2615)	112.25	14	.0000	.138
I	86.3	(441)	11.4	(58)	2.3	(12)	19.5	(511)				
II	71.9	(1066)	23.1	(343)	5.0	(74)	56.7	(1483)				
III	65.1	(166)	25.5	(65)	9.4	(24)	9.8	(255)				
IV	66.2	(86)	28.5	(37)	5.4	(7)	5.0	(130)				
V	66.2	(43)	33.8	(22)	0.0	(0)	2.5	(65)				
VI	92.6	(25)	7.4	(2)	0.0	(0)	1.0	(27)				
CDO	92.6	(91)	7.1	(7)	0.0	(0)	3.7	(98)				
CMO	97.8	(45)	2.2	(1)	0.0	(0)	1.8	(46)				
Length of Employment								(2615)	90.19	14	.0000	-.014
< 1 yr	86.1	(315)	11.5	(42)	2.5	(9)	14.0	(366)				
1 to 2 yrs	72.8	(334)	23.7	(109)	3.5	(16)	17.6	(459)				
2+ to 5 yrs	68.2	(424)	24.9	(155)	6.9	(43)	23.8	(622)				
5+ to 10 yrs	67.6	(340)	25.6	(129)	6.8	(34)	19.2	(503)				
10+ to 15 yrs	80.8	(236)	16.8	(49)	2.4	(7)	11.2	(292)				
15+ to 20 yrs	80.7	(201)	16.1	(40)	3.2	(8)	9.5	(249)				
20+ to 25 yrs	91.4	(74)	8.6	(7)	0.0	(0)	3.1	(81)				
25+ yrs	90.7	(39)	9.3	(4)	0.0	(0)	1.6	(43)				

Note: Based on involved and non-involved officer data (merged, unique CO file).

Table 4.16

Distribution of COs Assaulted and Battered by Inmates According to Institution of Employment and by Security Classification of Institution (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	COs Involved %	COs Involved (#)	Average # COs Involved Per Episode	(# of Episodes)	Average # Episodes Per Involved COs	(# of Unique Involved COs)
Maximum Security	26.4	(214)				
MDP	31.5	(140)	2.32	(125)	1.99	(142)
MRDCC	20.7	(53)	2.41	(29)	1.40	(48)
MCIW	19.1	(21)	1.73	(15)	1.27	(22)
Medium Security	27.7	(414)				
MHC	18.8	(86)	2.49	(45)	1.26	(87)
MCIJ	25.2	(63)	1.87	(47)	1.46	(63)
MCIH	41.1	(139)	3.17	(103)	2.22	(152)
MCTC	28.1	(126)	2.17	(100)	1.66	(122)
Minimum/Pre-release Security	7.6	(31)				
BBCF/PRS [1]	7.6	(31)	1.83 [2]	(24)	1.29	(31)
DOC	24.3	(659) [3]	2.4	(488) [4]	1.73	(667)

1 BBCF, along with most of the remaining PRS is designated by one code number by the State Department of Personnel. Because of this, these institutions cannot be distinguished one from another on the master personnel file. BBCF is technically a medium security institution; however, one-third to one-half of the inmates housed there were minimum or pre-release status or would have soon been reclassified accordingly.

2 DOC average number of COs.

3 Eight missing cases.

4 Six missing cases.

involvement in a second way -- by frequency of involvement compared to location and security classification of the institution.

When MCIH is classified as maximum security, a designation that more truly describes its operational characteristics and its inmate population, the percent of CO involvement increases to 30.7% for maximum security institutions and decreases to 23.8% for medium security facilities.

MCIH clearly stands out as the institution with the highest proportion of employed COs involved in assault and battery encounters with inmates. Administrative personnel attribute this pattern to the relatively high number of inmates serving segregation sentences for disciplinary infractions, the more youthful age of the offender as compared to MDP and MHC (i.e., the other state institutions housing large numbers of inmates serving time for violent offenses), and the use of double versus single cells. These factors theoretically predispose inmates to violence. (Refer to the "Methods" Chapter and the first section of this chapter for further discussion of institutional characteristics.)

Differences in correctional officer response patterns may also help to explain institutional variation in episode involvement. Officer variables will be explored further in the next section.

As noted in the "Methods" chapter, an additional factor distinguished the Hagerstown prisons, MCIH and MCTC, from the remainder of the maximum and medium security facilities in Maryland -- the guard force is almost exclusively white. To explore the possibility that racial diversity between officers and inmates might be contributing to the response patterns at Hagerstown, a ratio of black inmates to white

Table 4.17

Distribution of Frequency of Episode Involvement by Security Classification and Location of Institutions (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	% of Category Involved (#) 0 Episodes	1-2 Episodes	3+ Episodes	Row Total	Chi-Square	D.F.	P Value	Gamma
Security Classification				(2713)	75.77	4	.0000	-.215
Maximum	73.6 (597)	21.6 (175)	4.8 (39)	29.9 (811)				
Medium	72.3 (1080)	22.5 (336)	5.2 (78)	55.1 (1494)				
Minimum/ PRS	92.4 (377)	7.6 (31)	0.0 (0)	15.0 (408)				
Location				(2305)	52.84	4	.0000	-.228
Rural	66.3 (521)	25.3 (199)	8.4 (66)	34.1 (786)				
Urban	72.5 (508)	22.1 (155)	5.4 (38)	30.4 (701)				
Suburban	79.2 (648)	19.2 (157)	1.6 (13)	35.5 (818)				

Note: Based on involved and non-involved officer data (merged, unique CO file).

officers was calculated for each DOC institution. There was no association found between an institution's inmate to CO racial diversity ratio and its proportion of COs involved in assault and battery episodes. This finding does not mean that racial prejudices do not exist among COs. However, if prejudicial attitudes do exist, they do not seem to be expressed uniformally in situations where racial diversity characterized the institution's inmate and CO populations and might affect conflict with officers.

Institutions were classified in a final way according to their location and the home environment of each institution's guard force — urban, suburban, and rural. Based on observations made during the study, it seemed that the attitudinal and life style differences or dissonance between COs and inmates were linked to the value systems characterizing the inmates' and officers' home environments. It was postulated that COs living in an urban environment were less likely to experience value, attitudinal and behavioral style dissonance when interacting with inmates, most of whom come from inner city home environments. In contrast, COs living in rural environments might experience greater dissonance, thereby limiting their effectiveness in defusing and controlling altercations without the exchange of force.

The proportion of COs involved in episodes who worked in rural institutions (and lived in rural environments) was significantly higher than their colleagues working in suburban and urban institutions. There were 265 (33.7%) "rural" COs involved in episodes as compared to 193 (27.5%) "urban" and 170 (20.8%) "suburban" COs. This data excluded all COs working in the minimum security/pre-release system. It was felt that because these facilities and their inmate populations had proved to be

such low risks for assaults and batteries and because these institutions and their workforces were located in all three environment categories (rural, suburban, and urban areas), they should be eliminated from the comparison. The differences between groups were significant at p = .0000 (chi-square = 33.86 with two degrees of freedom). Refer again to Table 4.17.

The "urban" institutions may have had a higher proportion of COs involved as compared to the suburban facilities because they represent the two major maximum security institutions in the state -- MDP and MRDCC. Especially at the Penitentiary, conditions are crowded and there are multiple opportunities for close interaction between inmates and COs.

As described earlier, MCIW is the major institution for female inmates in the state. With the exception of those few female offenders housed in pre-release facilities, all female inmates are housed at MCIW. Though classified as a maximum security institution, most of MCIW's offenders are classified at a lower security risk -- medium, minimum, or pre-release. Though the proportion of COs involved in episodes was not exceptionally low (19.1%), the average number of COs involved per episode (1.73) and the average number of episodes per involved COs (1.27) were the lowest and next to the lowest in the state. (Refer to Table 4.16.) Fewer COs were used in controlling each episode that occurred and there did not appear to be a particularly "high risk" group of COs that frequently responded or was involved in altercations with inmates. Possible explanations include less physical violence on the part of female offenders, fewer assault and battery attempts that were initially directed at COs, and an increased likelihood that episodes were controllable with

less use of force. (See the discussion under section 4.2.1.3 Sex.) When female-initiated violence does occur, it may be more manageable with minimal force.

4.2.1.9 History of Verbal Abuse, Physical Assault, and Injury: Self-reported past occurrences of verbal abuse and threats, physical assaults, battery injuries (total career and last year), and lost work days due to inmate encounters proved to be predictive of future involvement. Furthermore, when involvement in battery episodes during the study was categorized by none (0), one to two, and three or more, the relationship with past history strengthened. Table 4.18 displays these results. As noted before, reasons for this pattern seem to include both duty post and institutional assignment as well as behavioral risk factors. Officers reporting high rates of verbal abuse and threats by inmates were not significantly more likely to have been assigned to institutions with high rates of involvement, thus offering some support for the importance of officer perceptions and behaviors with inmates versus institutional assignment. Graph 4.19 illustrates self-reported history by institution (high rate vs. low rate).

4.2.2 CO Injury Outcome for "Involved" Officers: Findings and Discussion: The findings and discussion presented in this section are relevant to only those officers who were involved in study episodes. Sociodemographic and historical data relevant to the occurrence of a battery injury sustained by an involved officer are presented.

4.2.2.1 Age, Sex, Rank, and Race: Although one might anticipate that injury outcome for those COs involved in assault and battery

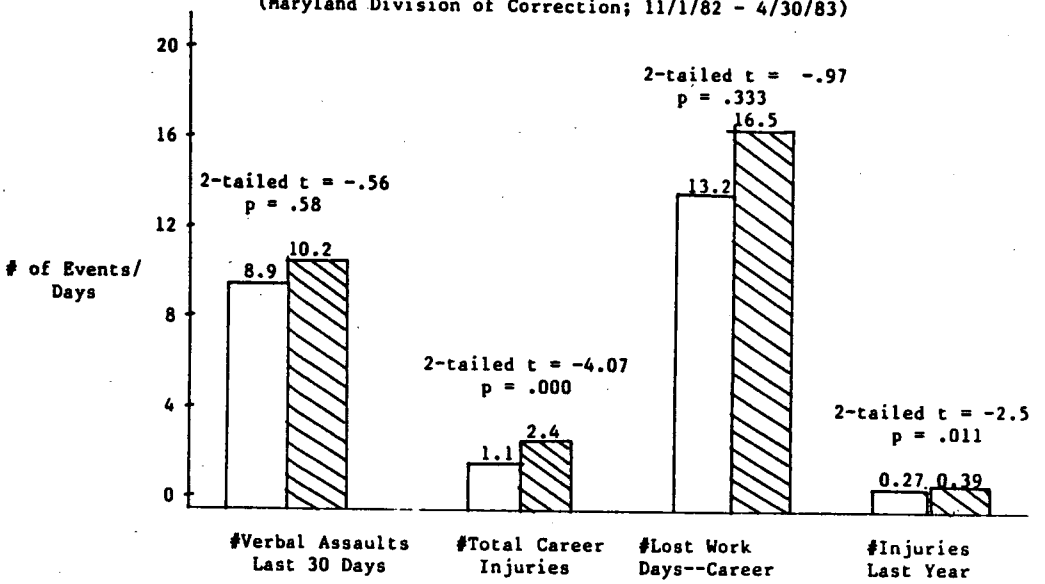
Table 4.18: Officer Frequency of Involvement by History of Verbal Abuse, Physical Assault, Battery Injury and Battery Injury in the last year*
(Md. DOC; 11/1/82 - 04/30/83)

Category	Mean (n)	Total CO Popul.	Involvement 0	Involvement 1-2	Involvement 3+	ANOVA F	ANOVA Sign Off
No. Verbal		9.35 (1216)	7.66 (869)	10.62 (278)	25.48 (69)	6.14	0.002
No. Total Injuries		1.60 (1216)	1.24 (869)	2.12 (278)	3.99 (69)	13.94	0.000
No. Total Last Work Days		14.50 (1200)	12.16 (845)	15.71 (283)	37.32 (72)	5.96	0.003
No. Injuries Last Year		0.32 (1200)	0.19 (845)	0.50 (283)	1.07 (72)	42.45	0.000

* From the merged, unique CO file

Graph 4-19

Self-reported Officer History of Post Verbal Abuse, Physical Assault, Injuries, Lost Work Days Due to Inmates By High and Low Rate of Institutional Involvement (Maryland Division of Correction; 11/1/82 - 4/30/83)



Key: ▨ = High rate institution (MCTC, MDP, MCIH)
□ = Low rate institution (MHC, MCIJ, MCIW, MRDCC, BBCF, PRS)

* Indicates significant association.

Note: Data from merged unique CO file.

encounters might vary by age and sex, it did not. This analysis is based on data in the unique officer file and includes only those COs involved in episodes and completing the questionnaire. Older individuals were not more likely to be injured. Rather, younger COs (19 to 24) and older COs (55+) were less likely to be injured, though this finding was not statistically significant ($p = .3047$). Female officers were also not more likely to sustain an injury when compared to males involved in study episodes. Rank, which is correlated to some extent with age, was not significantly related to injury outcome. Along with age, sex, and rank, race was not predictive of subsequent injury resulting from assault and battery by inmates. Once involved in physical conflict with inmates, the above officer sociodemographic variables did not seem to substantially affect injury outcome to COs.

4.2.2.2 ***Institution of Employment:*** The correctional officer's institutional assignment was related to the probability of injury for those involved in assault and battery episodes. Findings by institution, presented earlier in Section 4.1 and also in Table 4.20, may to some extent reflect differences in the nature and seriousness of the episodes that occur. Or, results may be more or less a function of CO skill in handling the episodes that did occur. (Refer to the first section of this chapter for further discussion.) The distribution of injuries by institution seemed to follow a similar pattern as that for CO involvement. Once an episode was underway, the risk of injury to COs involved did not seem to vary greatly by institution.

4.2.2.3 ***Other Sociodemographic Factors:*** Additional officer sociodemographic variables that were not related to injury outcome were

Table 4.20

Correctional Officer Injury Distribution by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	Security Rating	% Injured/Involved COs by Institution Who Were Injured (#)	% of All Injured COs by Institution	Injury Incidence Rate Per 100 COs**	Order of Morbidity Exp.
MCTC	Medium	37.9 (47)	27.2	13.8	1
MDP	Maximum	22.1 (31)	17.9	8.8	3
MCIH	Medium	28.8 (40)	23.1	11.9	2
MCIJ	Medium	19.7 (12)	6.9	5.1	5
MHC	Medium	17.4 (15)	8.7	3.8	7
MCIW	Maximum	33.3 (7)	4.0	7.0	4
MRDCC	Maximum	24.5 (13)	7.5	5.0	6
BBCF/PRS*	Min/PR	25.8 (8)	4.6	1.9	8

* BBCF is officially classified as medium security and the PRS as minimum or pre-release security. However, during the study, about 30 of BBCF's inmate population was classified as minimum security. The remainder of the BBCF population would soon be eligible for a minimum/pre-release classification.

** Rates are based on #budgeted CO positions.

Note: Differences among institutions were significant at p = 0.0276, chi-square = 15.74 with 7 D.F.

marital status, education, and military history. As with CO episode involvement, the officer's veteran status and combat history had no significant association with injury outcome.

4.2.2.4 ***Training***: Division of Correction basic training and additional training in self-defense and methods of handling abusive/manipulative individuals had no significant association with injury outcome. Those COs who reported having received additional training in self-defense beyond that offered in the Basic Training Academy course were slightly more likely to have been injured as compared to those COs who had received no additional self-defense training {i.e., 33.6% (49) versus 25.8% (55), respectively; $p = .11$}, but the findings were not significant.

To examine the contribution of type of episode to the self-defense training and injury outcome relationship, cross-tabulations of CO self-defense training with episode category and initial direction of the conflict were performed. (See Appendix C, Assault and Battery Episode Coding Key and the relevant discussion of episode type and injury outcome in the first section of this chapter.) Neither cross-tabulation revealed a significant relationship with self-defense training. COs who had received this training were slightly more likely to be involved in episodes that initially involved "inmate(s) to officer(s) and/or other(s)" directed violence rather than "inmate to inmate" directed violence ($p = .07$). In other words, the initial direction of episode violence as related to the participants had a weak, marginally significant relationship to self-defense training. However, concluding that COs with additional self-defense training were more likely to be involved in the more serious

episodes, and because of this did not benefit from a reduction in injuries as a result of superior skill, is inappropriate. Note, also, that no attempt was made to document the date of training or quantify the additional training reported by COs.

4.2.2.5 History of Verbal Abuse, Physical Assault, and Injury: Unlike the association with episode involvement, prior history of verbal abuse, physical conflict, and/or battery injury (Pre-Questionnaire items #32-34), once the officer was involved in an episode, was not significantly associated with subsequent battery injury. Only a weak, marginally significant negative association of previous battery injury and subsequent injury in a study episode was found {25.5% (53) versus 33.8% (52); p = .09}. Concluding that increased caution is exercised in battery encounters by COs who have been injured in the past should not be drawn based on this data.

4.2.3 CO Injury Outcome for All Cohort Correctional Officers: Findings and Discussion: Tables 4.21 and 4.22 summarize significant bivariate relationships for sociodemographic, height, and history of past verbal abuse, physical assault, and battery injury variables with the dependent variable, injured/not injured. Note that these relationships are based on a comparison of those COs who were not injured (**with** and **without** episode involvement) with those who were injured. Earlier reported bivariate relationships (Section 4.2.2) were drawn from the analysis of variables for **involved** officers only and their injury outcome. The variables reported in Tables 4.21 and 4.22 were later incorporated in the development of predictive models of injury outcome.

Among **all** COs, a past history of battery injuries, especially in the

Table 4.21

Bivariate Relationships of Officer Cohort* Master Personnel Variables with the Dependent Variable, Injured/Not Injured (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable	Injured COs %	Injured COs (#)	% of Injured COs from Category	N	Chi-square	D.F.	P Value	Gamma
Institution (Security Class)				2713	31.09009	2	.0000	-.20049
Maximum	31.9	(80)	9.9					
Medium	64.9	(163)	10.9					
Minimum	3.2	(8)	2.0					
Institution (Location)				2305	46.00720	2	.0000	-.37090
Urban	30.0	(73)	10.4					
Suburban	18.5	(45)	5.5					
Rural	51.9	(125)	15.9					
Race				2615	20.20618	1	.0006	.66755
White	62.1	(154)	11.2					
Black/Other	37.9	(94)	7.6					
Sex				2615	20.20618	1	.0006	.66755
Male	97.2	(241)	10.4					
Female	2.8	(7)	2.3					
Rank				2615	21.04569	1	.0000	.40699
Rank I (COII-V)	86.3	(214)	11.1					
Other (COI,COVI, CDO,CMO)	13.7	(34)	5.0					

Variable	Mean	N	T Value	D.F.	2-tail P Value
Age		2611	6.98	361.11	.0000
Injured	843.29				
Not Injured	1306.37				

* Based on involved and non-involved officer data (merged, unique officer file).

Table 4.22

Bivariate Relationships of Officer Cohort* Pre-Questionnaire Variables (Historical and Height) with the Dependent Variable, Injured/Not Injured (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable	Mean	N	T Value	D.F.	2-tail P Value
Height		1255	-1.88	196.48	.062
Injured	70.8277				
Not Injured	70.3534				
# Past Battery Injuries		1263	-1.99	187.24	.048
Injured	2.5000				
Not Injured	0.2742				
# Battery Injuries Last Year		1252	-3.48	157.64	.001
Injured	0.7347				
Not Injured	0.2742				

Variable	COs Injured %	COs Injured (#)	COs Not Injured %	COs Not Injured (#)	N	Chi-square	D.F.	P Value	Gamma
Physical Assaults - Prior 30 Days	14.5	(22)	6.6	(74)	1273	13.55	3	.004	.405
History of Prior Battery Injury	56.7	(85)	40.8	(452)	1259	13.03	1	.000	.311
Additional Self-defense Training	45.7	(69)	36.3	(410)	1279	4.58	1	.032	-.191

* Based on involved and non-involved officer data (merged, unique CO file).

last year, was clearly related to subsequent injury. A negative, statistically significant, but weak association between self-defense training and injury was also identified. The relative importance of officer behaviors versus duty assignment as they relate to prior history of assault, battery, and injury remain unclear. The contribution of behavioral and historical factors to CO injury are addressed further in the multivariate analysis of study variables (section 4.5) of this chapter).

4.3 Attitudes, Beliefs and Behavioral Intentions of Correctional Officers and the Relationships of these Variables to Involvement In and Injury From Assault and Battery by Inmates

There were 1314 correctional officers for whom master personnel file data, questionnaire responses, and, as applicable, battery episode data existed. The following subsection discusses Pre-Questionnaire findings relevant to this group's participation in battery episodes (with and without assault) during November 1, 1982 through April 30, 1983. As described in the "Methods" chapter, the Pre-Questionnaire measured officers' attitudes, beliefs and behavioral intentions regarding corrections, inmates, role, and conflict with inmates.

4.3.1 Findings and Discussion by Episode Involvement

4.3.1.1 General Attitudes: Of the several questions measuring general attitudes and beliefs about corrections and inmates, the following two were found to be related to subsequent physical involvement in conflict with inmates. COs later battered by inmates versus those who were not were more likely to agree with the statement, "Those who break the law should never be excused for their crimes." These same COs were

less likely to agree with the statement, "The death penalty for serious crimes should be abolished entirely." (See Table 4.23.)

Though both findings were statistically significant, neither association was particularly strong. Two additional attitudinal statements were not found to be related -- "A personal insult should not be forgotten" and "Inmates would benefit from strict discipline and strongly enforced rules and regulations." The weak association that did exist between the first two questions and involvement (Table 4.23) may be partly or entirely due to institutional assignment and the relative dangerousness of the inmates associated with COs who were later battered. A second explanation might attribute this response pattern to a more punitive approach by COs later involved in study episodes. The lack of association between episode involvement and the "personal insult" question would not support the latter conclusion.

Other attitudinal questions include the officers' perception about the primary and secondary missions of corrections -- secure, punish, change, and none (of the above). There was a weak, non-significant ($p = .23$) positive relationship between "punish" as a primary or secondary choice and subsequent episode involvement. Again, institutional affiliation and the concomitant risks of assault and battery may help to explain this weak trend (i.e., 29% of involved COs picked a "punish" choice versus 25% of non-involved COs).

4.3.1.2 Officer Perceptions of Role and Power: Role- and power-related questions (i.e., questions 10, 17, 18, 19, 20, and 23) were not significantly associated with subsequent battery by inmates. These questions examined COs' perceptions about clarity of role and

Table 4.23

CO Attitudes about Corrections/Inmates
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Attitudinal Questions	% of Involved COs in Agreement (#)	% of Non-involved COs in Agreement (#)	Chi-square	D.f	P Value	Gamma
Never Excuse Law Breaker	54.9 (207)	48.6 (443)	12.8	4	.01	-.06
Abolish the Death Penalty	4.2 (16)	5.9 (54)	10.4	4	.03	.22
Do not forget personal insult	22.5 (85)	24.8 (226)	7.6	4	N.S.	-.02
Inmates Benefit From Strict Discipline	84.6 (319)	80.2 (736)	5.3	4	N.S.	-.09
Because of Job, Frequently Angry	55.2 (206)	53.0 (482)	6.2	4	N.S.	-.08
Assault Problem Important	86.9 (326)	83.9 (766)	5.9	4	N.S.	-.11

* Significant at $p < .05$; ** N.S. = Not significant.

Note: Based on unique officer file.

supervision, ability to institute change, and power. (See Table 4.24.) Other general questions included CO perceptions about the sources of work stress (#24), importance of the assault problem (#28), most serious outcome of inmate assault (#27), and job-generated anger, frustration, anxiety, and/or unhappiness (#29). Responses to these questions were not significantly related to subsequent CO involvement in study episodes.

The more 'general' questions listed above may not have been associated with subsequent episode involvement because they were not specific to the behaviors common to or related to assault and battery confrontations with inmates. Those questions that were more specific to study cases tended to better distinguish between battered and non-battered officers.

4.3.1.3 Officer Perceptions Concerning Conflict with Inmates: Question #7 asked, "Do you think officers can **prevent** assaults involving physical violence by inmates on themselves or other officers?" This question was not specific to the officers' future behaviors, but it did measure to some extent the degree of control they perceive they might have in defusing potential altercations with inmates. Perhaps this attitude helped to shape future approaches with inmates. Of those COs later involved in study episodes, 65.6% (249) answered "always" or "sometimes" to this question while 34.3% (130) answered "not usually" or "never". In contrast, 74.4% (689) of those COs not later involved answered "always" or "sometimes" while 15.6% (239) answered "not usually" or "never". These findings were significant at $p = .01$ (chi-square = 11.38).

A second question more specifically explored the behaviors officers

Table 4.24

Correctional Officer Perceptions of Role and Power by Subsequent Battery by Inmates: Non-significant Findings (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Role and Power Questions	% Involved COs in Agreement (#)		% Non-involved COs in Agreement (#)		Chi-square	D.F.	P Value	Gamma
Little/No Power Meeting Responsibilities as CO	45.6	(172)	41.1	(381)	6.4	4	N.S.	-.032
I Can Make Changes	15.7	(59)	18.3	(166)	3.2	4	N.S.	.065
Understand Mission of Corrections	69.5	(257)	78.9	(631)	0.4	2	N.S.	-.019
Understand My Responsibilities	88.3	(332)	86.8	(800)	0.6	2	N.S.	-.067
Can Achieve My Responsibilities	52.1	(195)	53.4	(489)	0.2	2	N.S.	.020
Directions Clear	47.6	(178)	49.5	(456)	0.8	4	N.S.	.065

Note: Based on unique officer file.

might demonstrate early in an altercation with an inmate, prior to the occurrence of physical violence (#21 - "When verbal abuse by an inmate is directed at you, what is the first thing that you do?"). Table 4.25 summarizes the responses to this question. Though not a markedly strong predictor of episode involvement, response patterns may suggest ways to more effectively defuse situations that may culminate in physical violence. As will be discussed in the next section, many study episodes began with an exchange of inflammatory remarks between participants.

COs were also questioned about their usual, initial response to inmates fighting (#26 - "When you find inmates fighting, what do you usually do **first**?). This question also varied significantly among those COs who were later battered as compared to those who were not. Table 4.26 provides the frequency distribution of respondents by subsequent episode involvement. Findings would indicate that attempting to "talk inmates" apart may successfully halt some inmate fights, precluding physical intervention and the risk of injury to COs. Immediately calling for CO assistance or stepping in to physically break up the fight is associated with a slight, subsequent increase in episode involvement.

Officers' perceptions about the occurrence of battery injuries to officers were reflected in their responses to questions eight and nine -- "How preventable are injuries to you or fellow officers when in physical confrontations with inmates?" and "In assaultive episodes, injuries to officers usually occur as a result of: . . . ". Question eight did not prove to be predictive of future physical conflict with inmates. Officers may have felt that once a physical fight was in progress, little could be done to prevent officer injuries on a regular basis. Multiple choices were permitted for question nine. Involved COs were more likely than non-

Table 4.25
Self-reported Initial Response to Inmate Verbal Abuse and Subsequent Involvement in Assault and Battery Episodes with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Initial Response	% COs With Subsequent Involvement	(#)	% COs Without Subsequent Involvement	(#)
Aggressive	23.7	(87)	20.4	(184)
Smart Comment	4.4	(16)	4.3	(39)
Yell Back	2.5	(9)	1.2	(11)
Stare Down	4.1	(15)	2.7	(24)
Immediately Write Up (Ticket)	8.4	(31)	7.8	(70)
Physically Restrain/Lock Up	0.8	(3)	1.3	(12)
Tell Shut Up	3.5	(13)	3.1	(28)
Neutral	25.6	(94)	24.6	(221)
Ignore	24.5	(90)	23.2	(209)
Call for Assistance	1.1	(4)	1.3	(12)
Positive	43.1	(158)	51.2	(461)
What's Wrong	28.1	(103)	31.1	(280)
Calm Down	15.0	(55)	20.1	(181)
Other	7.6	(28)	3.8	(34)
	100.0	(367)	100.0	(900)

Note: Chi-square = 12.88, p = 0.005 (D.F. = 3)
Based on unique officer file.

Table 4.26

Self-reported Initial Response to Inmates Fighting and Subsequent Involvement in Assault and Battery Episodes with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Initial Response	% COs With Subsequent Involvement (#)	% COs Without Subsequent Involvement (#)
Call for CO Assistance	74.8 (279)	71.3 (650)
Let Inmates Fight it Out	1.6 (6)	1.2 (11)
Ask for Assistance from Other Inmates	0.5 (2)	0.3 (3)
Break up Immediately	9.7 (36)	7.3 (67)
Attempt to "Talk" Apart	13.4 (50)	18.5 (169)
Other	0.0 (0)	1.3 (12)
Total	100.0 (373)	100.0 (912)

Note: Chi-square = 11.82, p = 0.037 (D.F. = 5).
Based on unique officer file.

participants to have said that officer injuries occurred because COs fell against an object in the environment or were taken by surprise. In contrast, non-involved COs were more likely to attribute officer injuries to aggravation of the inmate by the officer or the officer's not waiting for reinforcement. Response choices are listed in Table 4.27.

Question #22 asked COs, "If you are in physical conflict with an inmate, how avoidable is injuring the inmate?". Those COs not later assaulted and battered by inmates were more likely to feel inmate injuries were avoidable (58% versus 51%), but the results were not statistically significant ($p = .14$).

4.3.1.4 Self-Reported Coping Strategies for Job-Related Anger, Anxiety and Unhappiness: An individual's coping strategies in dealing with work-related anger, anxiety and unhappiness were felt to potentially impact on his/her interaction with inmates. Officers were asked to select from a list of 19 coping strategies those methods they used in dealing with the above work-connected emotions. As postulated, several of these methods were more (or less) likely to be associated with inmate conflict. Table 4.28 summarizes coping strategies that were found to be significantly related to episode involvement. (Multiple choices were permitted.)

Those coping methods or behavioral responses that were not associated with episode involvement included "spend time on hobby", "keep inside", "physical illness", "nervousness/anxiety", "talk with spouse", "use drugs", "strictly enforce rules", "take it home", "sleep more", "tell self not important", "call in sick", "take off work" and "other" choices. (See Table 4.29.) Responses should be evaluated with an

Table 4.27

Correctional Officer Perceptions of Reasons for Officer Injuries in Assault and Battery Encounters with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Injury Cause	Positive Response: Involved COs %	Positive Response: Involved COs (#)	Positive Response: Non-involved COs %	Positive Response: Non-involved COs (#)	Negative Response: Involved COs %	Negative Response: Involved COs (#)	Negative Response: Non-involved COs %	Negative Response: Non-involved COs (#)	Chi-Square	P Value
Fall Against Object in Environment	52.0	(194)	43.9	(404)	48.0	(179)	56.1	(516)	7.00	.008
Lack Self-defense Training *	42.1	(157)	41.8	(385)	57.9	(216)	58.2	(535)	0.00	.936
Inmates' Better Physical Condition *	45.3	(169)	43.0	(395)	54.7	(204)	57.0	(524)	0.58	.445
COs Aggravate Agitated Inmate	14.5	(54)	23.7	(218)	85.5	(319)	76.3	(702)	13.58	.000
COs Taken by Surprise	59.2	(221)	51.1	(470)	40.8	(152)	48.9	(450)	7.12	.008
COs Not Waiting for Reinforcement	27.9	(104)	34.8	(320)	72.1	(269)	65.2	(600)	5.73	.017
Matter of Chance *	27.3	(102)	25.7	(236)	72.7	(271)	74.3	(684)	0.39	.530
Other *	11.8	(44)	10.5	(97)	88.2	(329)	89.5	(823)	0.43	.513

Note: Based on unique officer file.

* = Non-significant; N = 1293; (D.F. = 1)

Table 4.28

Correctional Officer Responses to Work-related Anger, Anxiety, and Unhappiness by Subsequent Episode Involvement (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Coping Strategy	Involved COs %	Involved COs (#)	Non-involved COs %	Non-involved COs (#)	% Diff.	Chi-square	D.F.	P Value	Gamma
Talk with a Friend *	30.5	(114)	34.6	(319)	-4.1	2.06	1	.151 *	-.094
Have a Drink	29.4	(110)	21.9	(202)	7.5	7.79	1	.005	-.195
Sports/Physical Labor	40.6	(152)	33.9	(313)	6.7	4.90	1	.027	-.142
Deal Harshly with Inmates	8.3	(31)	3.9	(36)	4.4	9.56	1	.002	.380
Try to Change System	11.0	(41)	6.9	(64)	4.1	5.25	1	.023	-.246
Reason Through Feelings	14.7	(55)	19.7	(182)	-5.0	4.18	1	.041	-.176
Argue with Fellow COs *	5.3	(20)	3.1	(29)	2.2	2.97	1	.085	.270

* = Marginally significant

Note: Based on unique officer file.

Table 4.29

Non-significant Correctional Officer Responses to Work-related Anger, Anxiety, and Unhappiness by Subsequent Episode Involvement (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Coping Strategy	Involved COs %	Involved COs (#)	Non-involved COs %	Non-involved COs (#)	Chi-square	D.F.	P Value	Gamma
Hobby	34.2	(128)	35.8	(330)	0.22	1	0.640	-.034
Keep Inside	34.2	(128)	34.9	(322)	0.03	1	0.861	-.015
Become Ill	9.4	(35)	9.9	(91)	0.03	1	0.859	-.029
Become Nervous	21.7	(81)	21.0	(194)	0.03	1	0.864	.018
Talk with Spouse	27.8	(104)	29.8	(275)	0.43	1	0.511	-.049
Use Drugs	1.9	(7)	2.0	(18)	0.00	1	1.000	-.021
Strictly Enforce Rules	23.0	(86)	20.5	(189)	0.85	1	0.357	.073
Take it Home	21.9	(79)	19.5	(180)	0.33	1	0.566	.049
Sleep	10.2	(38)	10.8	(100)	0.07	1	0.792	-.036
Tell Self Not Important	16.0	(60)	15.7	(145)	0.03	1	0.954	.012
Call in Sick	3.7	(14)	4.4	(41)	0.17	1	0.677	-.090
Take off Work	3.5	(13)	4.1	(38)	0.15	1	0.701	-.088
Other	8.8	(33)	8.4	(77)	5.03	1	0.081	.065

Note: Based on unique officer file.

awareness that there may have been a hesitancy on the part of some officers to answer all choices honestly. For example, in spite of reassurances about confidentiality, officers may not have truthfully responded to the "use drugs", "call in sick" and "take off work" options.

In spite of potential fears about confidentiality, significant though fairly weak relationships did emerge with regard to later participation in study episodes. Assaulted and battered officers were more likely to "have a drink", use "sports or physical labor", "deal harshly with inmates", "try to change the system" and (marginal finding) "argue with fellow COs" than COs not later participating in study episodes. With the exception of "sports/ physical labor" and "try to change system", the above behavioral responses might be viewed as negative or non-beneficial. Perhaps an aggressive approach to controlling inmate behavior might be in some sense an attempt on the CO's part to control an aspect of "the system". Officers using physical outlets (sports/labor) for negative emotional responses to work might be more likely to use this type of approach in a variety of stress/anger-producing situations -- such as conflict with inmates.

The positive responses ("talk with friend" and "reason through feelings") associated with non-involvement in future episodes suggest that these COs seem to display an increased likelihood to examine feelings and make effective use of an understanding friend. Response patterns to this question have implications for CO training, counselling, and perhaps pre-hire screening. These aspects will be discussed further in the final "conclusions" chapter.

4.3.1.5 Prior History of Verbal Abuse, Physical Assault, and Injury:

The strongest predictors of subsequent CO physical conflict with inmates were self-reported histories of prior inmate verbal abuse (i.e., number of verbal assaults in preceding 30 days), the number of prior battery injuries due to inmates, and the number of battery injuries in the preceding year due to inmates. The number of self-reported physical assaults (i.e., batteries) in the preceding 30 days was also strongly associated with subsequent episode involvement. As the number of prior batteries increased (i.e., from 0 to >3), the proportion of COs involved in subsequent cases also increased significantly (chi-square = 17.22; degrees of freedom = 3; p = .001). Table 4.30 summarizes the history of verbal assaults and battery injury by involvement findings. (See also Section 4.2.2.5 in Officer Cohort Characteristics.)

These variables are again likely to be influenced by the officer's institutional assignment and the associated risk of assault and battery involved. Officers do not usually transfer from one institution to another. If a transfer does occur, it usually is limited to one per career. The number of battery injuries reported by a CO for the preceding year almost uniformly reflected his/her episode involvements in one institution.

To a lesser extent, some officers have fairly stable duty post assignments. Again, self-reports of verbal assaults and battery injuries may be influenced partly by the relative risk of the CO's post. Also, those officers reporting a high number of verbal assaults may be reflecting a heightened sensitivity to this form of inmate communication.

In interpreting findings based on prior history of assault, battery, and injury, one must also consider the importance of CO behavioral response patterns with inmates. The data suggests that there may be a

Table 4.30

Self-reported Correctional Officer History of Number of Verbal Assaults, Total Number of Battery Injuries Ever, and Number of Battery Injuries in Preceding Year by Subsequent Involvement in Assault and Battery Episodes with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

CO History	COs Involved Means	(N)	COs Not Involved Means	(N)	T Test Value	2-Tail Probability
# Verbal Abuse/Assaults in Preceding 30 Days	13.61	(366)	7.90	(904)	-1.98	0.048
# Total Battery Injuries Due to Inmates	2.46	(364)	1.38	(899)	-2.85	0.004
# Battery Injuries Previous Year	0.61	(361)	0.21	(891)	-5.28	0.000

relationship between past involvements, behaviors relevant to study episodes and emotional responses to anger, anxiety, and unhappiness, and future involvements. A later section utilizing multiple regression analysis will discuss these potential inter-relationships further. Note, also, that this data is limited by the accuracy of the CO's recall and his/her willingness to report his/her experiences honestly. The two questions asking about the numbers of verbal assaults and physical assaults in the preceding 30 days limits bias due to forgetfulness (Jenkins, 1979). However, questions about how many of these encounters were not officially reported in writing indicated that verbal threats or abuse were frequently not reported. This phenomenon was equally true for both involved and non-involved officers, with means of the number reported not significantly different.

Physical assaults or batteries and battery injuries were more consistently reported. Again, involved and non-involved officers did not differ significantly on the proportion of episodes/injuries reported and not reported.

Involved officers were slightly more likely to have lost more work days due to inmate batteries in the course of their career (i.e., involved COs mean = 19.7; non-involved COs mean = 12.73; t-test value = -1.67, two-tailed p value = .095). Lost work time may be viewed as an approximation of injury severity, indicating only a weak, marginally significant relationship between past serious injury and increased likelihood of involvement. An opposite relationship was postulated, with serious injuries seen as a disincentive to future involvements. Perhaps, this pattern did not appear because the risks for battery injuries are influenced to some extent by continued employment in the same prison

and, perhaps, similar duty posts.

4.3.1.6 Job and Life Satisfaction: Job satisfaction (#1-5, 14, 29), life satisfaction (#11, 30), and perceived health (#31) were not meaningfully related to involvement in assault and battery episodes with inmates. (See Table 4.31.) Though officers did vary significantly in how satisfied they were with their jobs (total scale score and individual items) by institution, sex, and race, there was no association with subsequent episode involvement. In other words, neither satisfaction nor dissatisfaction with work seemed to affect subsequent conflict with inmates.

The results for the two life satisfaction questions are somewhat uninterpretable. COs who answered "very happy/satisfied" or "very unhappy/dissatisfied" were least likely to be involved in study episodes. Those who were "pretty happy/satisfied" were most likely to be involved ($p = .02$ and $p = .03$). The anticipated outcomes were either no relationship to involvement or a relationship of unhappiness/dissatisfaction to involvement.

4.3.2 Pre-Questionnaire Findings and Discussion by Injury Outcome For Involved Officers: There were 377 unique officers involved in episodes for whom master personnel file and questionnaire data were available. Responses by these subjects were used in examining the relationships between questionnaire items and injury outcome.

Correctional officer variables measured via the Pre-Questionnaire were, overall, less useful in predicting subsequent battery injuries than they were in predicting episode involvement. Note that many of the questions asked were not specific to the occurrence of, or to factors

Table 4.31

Correctional Officer Job Satisfaction and Subsequent Involvement in Assault and Battery Episodes with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Item	% Involved COs in Agreement (#)		% Non-involved COs in Agreement (#)		Chi-square	D.F.	P Value	Gamma
Satisfied with Job	76.7	(291)	78.3	(730)	.80	3	.850	.041
Choice of Any Job (Want This One)	39.5	(149)	39.0	(361)	.03	2	.983	-.008
Recommend Job (Strongly)	34.0	(128)	38.2	(353)	2.09	2	.352	.078
Like Job I Wanted	26.9	(66)	19.3	(179)	1.16	2	.561	.058
Take Job Again	48.4	(182)	47.9	(445)	.18	2	.916	-.015

Note: Based on unique officer file.

related to, injuries resulting from assault and battery encounters with inmates.

4.3.2.1 ***Perceptions About Battery Injury Occurrence:*** Question #9 did ask COs how they thought injuries occurred during physical fights with inmates. One choice, "not waiting for reinforcement from other COs", had a significant, negative correlation with injury outcome. Those COs answering in the affirmative were less likely to be injured than those COs who did not select this item as a possible reason for injuries (30.8% {81} versus 20.6% {22}; chi-square = 3.97; p = .0464 with 1 degree of freedom; Gamma correlation = -.2646). Non-injured COs may have revealed useful insights that later helped to prevent injuries due to episode involvement.

4.3.2.2 ***Coping Strategy:*** The coping strategy "talk with a friend" used in dealing with work-related anger, anxiety and unhappiness was also negatively related to CO injury outcome -- but with only marginal statistical significance (32.7% {86} not injured versus 23.1% {25} injured COs chose this option; chi-square = 3.33; p = .0680 with 1 degree of freedom; Gamma correlation = -.2346). As noted before, "talk with a friend" was also related to increased likelihood of non-involvement in episodes. This pattern might be related to an increased tendency to use verbal communication in dealing with stress-producing situations. This pattern might also be related to a heightened ability to defuse or minimize the seriousness of potential or actual battery encounters. Firm conclusions are not warranted, however.

4.3.2.3 ***Response to Verbal Abuse:*** The questions examining how

COs initially responded to verbal abuse and to inmate fights were not useful in predicting subsequent CO battery injuries among involved officers. Perhaps, associations failed to emerge because once physical conflict is in progress, the initial CO behaviors are irrelevant to the CO's injury outcome.

4.3.2.4 ***Training and Military History***: Though CO training and military history had no significant relationship to CO injury outcome for involved COs, there were some interesting relationships between training, military history, and CO's response to verbal abuse. There was no relationship between training received via the Basic Training Academy and response to verbal abuse. However, 54.8% (253) of those COs who reported receiving additional self-defense training also reported using "positive" responses to inmate verbal abuse (i.e., "what's wrong?", "calm down") rather than aggressive (i.e., "shut up", "smart comment", "physically restrain", etc.), neutral (i.e., "ignore", "call for assistance") or "other" (i.e., written in by CO) responses. In contrast, 45.6% (354) of the COs who had not indicated they had additional self-defense training reported "positive" responses to verbal abuse (chi-square = 16.45; p = .0009 with 3 degrees of freedom; Gamma correlation = -.1851). Additional training in dealing with manipulative, abusive individuals was also related to response to verbal abuse in a similar, positive fashion (i.e., 57.2% {258} versus 44.3% {348}; chi-square = 21.83; p = .0001 with 3 degrees of freedom; Gamma correlation = -.1945).

Individuals with additional training relevant to assaultive inmates were more likely to respond to verbal abuse with "positive" behaviors. These same behaviors were demonstrated as decreasing the likelihood of

involvement in assault and battery episodes with inmates. The implications of these findings for CO training will be discussed in the following chapter.

Correctional officers who were veterans, whether or not they had served in combat, tended more than non-veterans to report using "positive" behaviors in response to verbal abuse by inmates (i.e., 53.4% {393} veterans versus 42.4% {221} non-veterans reported using "positive" behaviors; chi-square = 17.86; p = .0005 with 3 degrees of freedom; Gamma correlation = -.1802). This phenomenon may be a function of older age and maturity that might accompany veteran status. These behaviors may also reflect the training, increased stability in stressful situations, and greater familiarity in dealing with groups, including aggressive individuals, that might be part of the military experience.

4.3.2.5 Other Pre-Questionnaire Items: The remainder of the correctional officer variables examined via the Pre-Questionnaire were not predictive of subsequent battery injuries among involved COs. Non-predictive items included job and life satisfaction questions and attitude and belief questions related to corrections, role, and inmates. The lack of association between these items and battery injury is understandable, given their lack of specificity to the factors and circumstances producing battery injuries.

4.3.3 Injury Outcome by All Officers (Involved and Not Involved): Analysis of Pre-Questionnaire variables by injury outcome for the officer cohort (involved and not involved; 1312 COs) identified several additional variables that demonstrated significant bivariate relationships. Table 4.32 summarizes these significant bivariate relationships. These findings

provide added insight regarding CO training and counselling implications. The findings also tend to support the "injured" CO's tendency to attribute causality to factors beyond his control. A slight increased tendency to use alcohol as a coping strategy would further support (though weakly) the analogy that the "later injured" CO looks to exogenous coping strategies that do not involve self-examination and communication.

4.4 Assault and Battery Episode Findings — Distribution of Episode, CO and Inmate Variables, and Selected Cross-tabulations

As discussed in the "Methods" chapter, assault and battery episode data was organized in a number of ways according to various units of analysis. Computer data files included files relevant to each unique episode; to each unique, involved officer; to the cumulative episode experiences of each involved officer; to each unique inmate; and to the cumulative episode experiences of each involved inmate. Two files were also created that merged master personnel file data, Pre-Questionnaire data, and the two CO episode files (unique - Merge 1 and cumulative - Merge 23), respectively. These files were used in multiple regression analysis, with results presented in Section 4.5.

Unique files were used in examining variables, such as race, that remained stable across multiple episode involvements. Cumulative files were used in examining variables that might have changed with each individual's successive episode involvement. For example, the weapons used by a CO could have varied with each episode involvement.

The following section will discuss episode findings, with study results organized according to the data files mentioned above. The first subsection will present the characteristics of the 494 episodes that

Table 4.32

Bivariate Relationships of Officer Cohort Pre-Questionnaire Variables (Attitudinal/Behavioral) with the Dependent Variable, Injured/Not Injured (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable	% of All COs Injured	(#)	% of Injured COs from Category	N	Chi-square	D.F.	P Value	Gamma
Are Assaults Preventable				1312	7.15343	3	.0672	.20105
Always, Sometimes	63.4	(99)	10.4					
Not Usually, Never	36.5	(57)	15.4					
Why are COs Injured - COs Aggravate Inmate				1293	13.95870	1	.0002	-.48774
Yes	9.2	(14)	5.1					
No	90.8	(139)	13.6					
Why are COs Injured - Surprise				1293	5.62005	1	.0178	.21343
Yes	62.7	(96)	13.9					
No	37.3	(57)	9.5					
Why are COs Injured - Don't Wait for Help				1293	10.50437	1	.0012	-.32922
Yes	20.9	(32)	7.5					
No	79.1	(121)	13.9					
Coping with Work - Talk with a Friend				1295	5.58924	1	.0181	-.23557
Yes	24.7	(38)	8.8					
No	75.3	(116)	13.5					
Coping with Work - Have a Drink				1296	3.58201	1	.0584	.18490
Yes	30.5	(47)	15.1		* 3.97210	1	.0463	
No	69.5	(107)	10.9					
How Important is Problem of Assaults				1288	11.57404	4	.0208	.25134
Extremely/Very	90.9	(140)	12.8					
Somewhat	7.1	(11)	7.9					
Not Too/Not at All	1.9	(3)	5.3					

Note: Based on involved and non-involved officer data (merged, unique CO file).

* before Yates correction

occurred during the study. Selected cross-tabulations will be included. The second subsection will present findings relevant to the CO participants, drawn from the unique and cumulative officer files. Again, the distribution of CO variables and selected cross-tabulations will be included. The third subsection will present results specific to inmate participants, based on both unique and cumulative inmate files.

4.4.1 Episode Variables Findings: This section includes a discussion of a variety of variables that describe the assault and battery episodes involving inmates and correctional officers. These variables are listed in Appendices C and D, "Assault and Battery Episode Coding Key" and "Assault and Battery Episode Coding Form." They include: institution; time; initial and primary sites; inmate's housing area; date; day of the week; prison census; initial event; valence; event outcome; weapons used by COs and inmates; principal and secondary methods of control; number of inmates, COs and others; inmate substance abuse; seriousness of CO injury; number and seriousness of inmate's and other's injuries; CO rank; CO role; a variety of inmate factors (described fully in subsection 4.4.; and episode category. Some of the variables describing CO and inmate behaviors and characteristics are better examined in the unique and cumulative inmate and CO files and will be discussed in the corresponding subsections.

4.4.1.1 Episode Site: As noted earlier, there were 494 study episodes. Episode distribution by insititution was discussed earlier in the chapter (Table 4.1). Study episodes occurred in a variety of locations within each prison. All prisons within the Maryland DOC system contain facilities and areas with common functions. For instance, all institutions

contain inmate housing areas, including single and double cells for the inmate in the general population, as well as those classified as segregation and protective custody status. Prisons also contain dormitories of various sizes, dining rooms, yards, gymnasiums, recreation rooms, and staff offices. A standard "site of event" coding key applicable throughout the state prison system was used to code initial and primary site of the battery episodes. Table 4.33 displays the distribution of episodes by site. Certain site categories were combined following the initial coding because of the sparcity of events at these sites and the similarity in function or interaction characteristics. For example, there were so few events occurring in single cells in a general housing area, that the category "general single cell" was combined with "general double cell" (i.e., 1.6% {8} of episodes occurred in regular single cells and 3.8% {10} of episodes occurred in regular double cells).

There were two particularly interesting findings related to the locations where episodes began: 27.8% (134) of all episodes occurred in a segregation area, yet these areas account for only 10% of all DOC beds, and two-thirds of all episodes occurred in a housing area of some kind. Two other high risk categories system-wide are the dining room/kitchen and the yard/gym.

The principal site of the episode generally remained identical to the initial site. Changes that did occur usually involved movement out of cells or dormitories into cell block hallways or general hallways and control points/command areas. Occasionally, confrontations moved from hallways into cells. Table 4.34 summarizes the distribution of initial site of the episode by institution.

Many interesting patterns emerged in the distribution of episodes by

Table 4.33

Distribution of Assault and Battery Episodes
by Initial and Primary Sites of Occurrence
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Site	Initial Site Frequency	Initial Site Percent	Primary Site Frequency	Primary Site Percent
Regular Single/Double Cells	27	5.8	22	4.7
Regular Cell Block Hallway/Foyer	67	14.3	79	16.9
Dormitory (Regular/Trailer/Quonset Hut)	35	7.5	30	6.4
Inmate General Use (Recreation Room/Shower)	48	10.2	39	8.3
Segregation/Protective Custody Single/Double Cells	55	11.7	57	12.2
Segregation/Protective Custody Hallway/Foyer/Shower	87	18.6	88	18.8
Yard/Gym	33	7.0	32	6.8
Dining Room/Kitchen	40	8.5	37	7.9
Staff Areas	13	2.8	15	3.2
Infirmary	13	2.8	13	2.8
General Hallway/Command Areas	15	3.2	21	4.5
Other (Vehicle, Visitor and Educational Areas, etc.)	36	7.7	35	7.5
Total	469 *	100.0	468 **	100.0

* 25 missing cases; ** 26 missing cases
Note: Based on the unique episode file.

Table 4.34

Distribution of the Initial Site of the Episode by Institution
(Maryland Division of Correction; November 1, 1982- April30, 1983)

Initial Site of Episode	COUNT / ROW PCT / COL PCT	Institutions								
		MCTC	MDP	MCIH	MCIJ	MHC	MCIW	MRDCC	BBCF/ PRS	ROW TOTAL
Regular Single/Double Cells		6 22.2 6.0	6 22.2 5.7	1 3.7 .9	5 18.5 10.6	2 7.4 4.3	0 0.0 0.0	7 25.9 25.9	0 0.0 0.0	27 5.8
Regular Cell Block Hallway/Foyer		24 35.8 24.0	5 7.5 4.7	9 13.4 8.5	8 11.9 17.0	14 20.9 30.4	1 1.5 6.7	5 7.5 18.5	1 1.5 4.5	67 14.3
Dormitory (Regular/Trailer/Quonset Hut)		6 17.1 5.7	8 22.9 5.7	6 17.1 5.7	2 5.7 4.3	6 17.1 13.0	1 2.9 6.7	0 0.0 0.0	6 17.1 27.3	35 7.5
Inmate General Use (Recreation Room/Shower)		14 29.2 14.0	10 20.8 9.4	10 20.8 9.4	3 6.3 6.4	0 0.0 0.0	3 6.3 20.0	3 6.3 11.1	5 10.4 22.7	48 10.2
Segregation/Protective Custody Single/Double Cells		1 1.8 1.0	22 40.0 20.8	22 40.0 20.8	4 7.3 8.5	4 7.3 8.7	2 3.6 13.3	0 0.0 0.0	0 0.0 0.0	55 11.7
Segregation/Protective Custody Hallway/Foyer/Shower		9 10.3 9.0	13 14.9 12.3	40 46.0 37.7	6 6.9 12.8	10 11.5 21.7	5 5.7 33.3	4 4.6 14.8	0 0.0 0.0	87 18.6
Yard/Gym		17 51.5 17.0	7 21.2 6.6	3 9.1 2.8	4 12.1 8.5	2 6.1 4.3	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	33 7.0
Dining Room/Kitchen		16 40.0 16.0	7 17.5 6.6	2 5.0 1.9	11 27.5 23.4	3 7.5 6.5	0 0.0 0.0	0 0.0 0.0	1 2.5 4.5	40 8.5
Staff Areas		4 30.8 4.0	2 15.4 1.9	2 15.4 1.9	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 7.7 3.7	4 30.8 18.2	13 2.8
Infirmary		1 7.7 1.0	9 69.2 8.5	1 7.7 0.9	0 0.0 0.0	1 7.7 2.2	0 0.0 0.0	1 7.7 3.7	0 0.0 0.0	13 2.8
General Hallway/Command Areas		0 0.0 0.0	5 33.3 4.7	4 26.7 3.8	1 6.7 2.1	1 6.7 2.2	1 6.7 6.7	0 0.0 0.0	3 20.0 13.6	15 3.2
Other (Vehicle, Visitor and Educational Areas, etc.)		2 5.6 2.0	12 33.3 11.3	6 16.7 5.7	3 8.3 6.4	3 8.3 6.5	2 5.6 13.3	6 16.7 22.2	2 5.6 9.1	36 7.7
	COLUMN TOTAL	100 21.3	106 22.6	106 22.6	47 10.0	46 9.8	15 3.2	27 5.8	22 4.7	469* 100.0

* 25 missing cases

initial site and institution. Variations in distribution by institution may be due to a number of factors, such as architectural characteristics, staffing patterns, inmate housing, inmate movement patterns, and inmate characteristics. Note, however, that the number of episodes by site and institution may be relatively small (two or three episodes per unit of analysis). Firm conclusions about institutional patterns should not be made.

With one exception, MHC was unremarkable in its distribution of episodes by site. MHC had 7.4% (2) of all DOC regular cell episodes and represents the only institution in the system without double cells.

At MCIJ, a modern, medium security prison with housing units (double cells) contained in two-tiered, two-winged pods, 23.4% (11) of all episodes occurred in the inmate dining room/kitchen and accounted for 27.5% (11 of 39) of all such DOC episodes. Regular cell and cellblock hallway/foyer episodes accounted for 27.6% of MCIJ episodes compared to 21.3% of MCIJ episodes occurring in segregation/protective custody cells and hallways/foyers -- a disproportionately high percentage for the latter, given the number of segregation and protective custody beds at MCIJ (i.e., 6.9% or 71 of 1027).

MCIW, a maximum security women's institution, characterized by a variety of housing types, including dormitories and multi-individual rooms contained in cottages, had the greatest proportion of their episodes in segregation areas (i.e., 33.3%, {5} in segregation/protective custody hall or foyer and 13.3%, {2} in a single segregation cell). The remainder of MCIW episodes were fairly evenly distributed by location. Note, however, the few number of cases involved.

MDP, the principal maximum security prison for Maryland DOC, had

a number of interesting episode distribution characteristics. Of all DOC dormitory incidents, 22.9% (8) occurred at the Penitentiary. However, the Penetentiary only accounts for about 15% of DOC dormitory beds.

Sixteen of 30 (53%) DOC episodes occurring in single segregation cells occurred at MDP and accounted for 15% of MDP episodes. However, only 14.9% (13 of 87) of all DOC episodes occurring in a segregation hallway or foyer occurred at MDP, with this accounting for 12.3% of MDP incidents. The total number of segregation/protective custody area episodes at the Penitentiary was 34 (23.9% of all such incidents in DOC). MDP had 22.7% (369) of the segregation/protective custody beds within DOC. It would seem that MDP may have some high risk inmates in single segregation cells. However, MDP officers may be handling segregation release and exercise periods more effectively than other prisons.

Other relatively high risk areas at MDP appear to be the showers, yards, infirmary, visitor area, general hall, and vehicle. Of all DOC shower episodes, 47% (8) occurred at MDP. There were 7 yard episodes at MDP, accounting for 28% (7 of 25) of such episodes within DOC. Sixty-nine percent (9 of 13) of DOC infirmary episodes happened in the Penitentiary. Both (two) DOC visitor area episodes and one of the two vehicle episodes occurred at MDP. Lastly, 50% (four of eight) of general hall/control point incidents took place at MDP.

These patterns may be partly due to architectural, operational, and staffing characteristics. The Penitentiary's yards are tremendously overcrowded, with many areas only visible by one or two COs posted on the walls. The ratio of officers within the yard to inmates may be one to 200 or 300. The MDP also had the largest infirmary within a Maryland

prison, frequently with a higher proportion of psychotic and mentally ill inmates than most other Maryland DOC facilities.

MRDCC is a seven story, maximum security institution located in an urban area. Inmate housing is predominately double cells. MRDCC's high risk areas include regular double cells (i.e., 37% or seven of 19 of all such DOC episodes accounting for 25.9% of MRDCC episodes) and the holding/reception area (i.e., 80% or four of five of all such DOC episodes accounting for 15% of MRDCC incidents). Regular cellblock hallways or foyers were the site for 18.5% (5) of MRDCC episodes, but only accounted for 7.5% of such incidents for DOC. These events might be partly related to adjustment difficulties (i.e., "street grudges"), personality difficulties of new inmates coming into the system, and the frequent turnover of these individuals.

MCTC, a medium security institution located on 37 sprawling acres, had a number of high risk areas when compared to the prison system as a whole. Of the DOC incidents occurring in a general cellblock hallway or foyer, 36% (24 of 67) occurred at MCTC. MCTC has only 23.6% of the DOC non-segregation/protective custody beds. Forty-four percent (11 of 25) of DOC recreation room and 50% (four of eight) of gym incidents occurred at MCTC. These events only accounted for 11% and 4%, respectively, of MCTC episodes. MCTC inmate dining room and yard were also high risk areas compared with other like sites within DOC. Forty-one percent (16 of 39) and 52% (13 of 25) of all such DOC incidents occurred at MCTC. These episodes accounted for 16% and 13%, respectively, of MCTC cases. Though few in number, three of the five incidents occurring in staff offices within DOC (with those at MCTC located in housing areas), happened at MCTC.

As with other facilities, the architectural design and staffing patterns of MCTC may be influential in the occurrence of cases by site. MCTC is geographically the largest facility. The yard is several acres in size. The inmate dining room and kitchen, as well as the gymnasium, are in individual buildings. Cellblocks (two tiers, two wings) are contained in several individual buildings separated by several hundred feet of ground. However, in spite of architectural characteristics, modifications in staffing patterns may have importance in preventing future episodes. These aspects will be discussed in greater detail in the final chapter.

Though a medium security prison, MCIH contained approximately 532 or 40% of DOC segregation and protective custody beds. Sixty-eight percent (15 of 22) of DOC episodes occurring in double segregation cells occurred at MCIH. Of those DOC incidents occurring in a segregation/protective custody hallway or foyer, 46% (40 of 87) happened at MCIH. The percentage of segregation hallway/foyer incidents is more reasonable, given the percentage of DOC segregation beds at MCIH. These latter episodes accounted for 38% of MCIH episodes. Segregation/protective custody beds comprise 32% of MCIH's total number of beds. MCIH seemed to have had a slight, disproportionately increased experience with hallway/foyer-based incidents. (Note: very few of the episodes classified as single and double segregation and protective custody cells were protective custody. There were only three single protective custody cell incidents system-wide.)

Other areas of interest at MCIH were the command area/general hall (three of the seven DOC episodes or 43%), known as "Back Keys", and a vehicle, one of two vehicle incidents system-wide. Inmates are often escorted to the command area at MCIH following incidents that

may require further investigation. This operational pattern may possibly be related to these "Back Key" episodes.

BBCF, a medium security prison with dormitories characterizing inmate housing, had 17% (four of 23) of all DOC dormitory incidents. Dormitory incidents accounted for 24% of BBCF episodes. Four of six (67%) of DOC bathroom incidents occurred at BBCF, accounting for 24% of BBCF cases. In prisons with single and double cells, inmates have toilet facilities in their cells, minimizing the use of group bathrooms. Two of the five (40%) DOC staff office incidents occurred at BBCF. Incidents in staff offices suggest that perhaps procedural problems might be a contributing factor.

There were five episodes occurring in the Pre-Release System. One incident occurred in a command area, a second in a staff area, two in dormitories, and the fifth was classified as "other". The PRS contained approximately 10% (1194) of DOC beds, all of which were contained within dormitories.

Though site patterns varied between institutions, a close examination of institutional characteristics, procedures, and staffing patterns may result in preventive strategies. These aspects will be discussed in greater depth in the final chapter.

4.4.1.2 Day of the Week: There was great variation within each institution in the number of episodes occurring by day of the week through the study period. However, a consistent pattern by day of the week did not occur across all institutions in the prison system. For instance, 40.0% (6) of MCIW episodes occurred on Friday, but only 10.3% (71) of all episodes system-wide occurred on this day. Table 4.35 displays

the number of episodes by day of the week and institution. Division of Correction administrators and prison personnel relate day of week variations to inmate movement patterns and activities, such as movies, "lock-downs", and regular social/religious functions, along with staffing patterns. Most institutions tended to have low or moderate numbers of episodes on Saturdays and Sundays. These days also tended to have slightly fewer numbers of COs on duty. However, these same days usually had few scheduled inmate activities involving mass movement and/or interaction. System-wide, Wednesdays had the highest frequency of episodes, with 19.4% (96) of all episodes occurring on this day. The utility of "day of the week" patterns is limited to each institution. There are no consistent inter-institutional patterns.

4.4.1.3 ***Month***: Assault and battery episode data was collected over a six month time period. During this period, there was no significant rate difference by month. The study design was not appropriate for a careful exploration of variation in rates by season. Because of the relatively short time period, the study was also unable to adequately examine the effect of inmate census (i.e., population growth) on assault and battery episode incident rates. The increase in the inmate population during this period was approximately 6%. There was not a corresponding incidence rate increase.

4.4.1.4 ***Valence***: The direction of participant interaction in assault and battery episodes (i.e., valence) was a variable that was both descriptive and predictive (see Appendix C). Of the original nine valence categories, seven described the episodes that actually occurred. There were no episodes that were primarily described as inmate to non-

Table 4.35

Number of Episodes by Weekday and Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Weekday	COUNT / ROW PCT / COL PCT	Institutions								
		MCTC	MDP	MCIH	MCIJ	MHC	MCIW	MRDCC	BBCF/ PRS	ROW TOTAL
Sunday		8	16	18	7	4	1	5	3	62
		12.9	25.8	29.0	11.3	6.5	1.6	8.1	4.8	12.6
		8.0	12.8	17.0	14.3	8.7	6.7	17.2	12.5	
Monday		18	14	17	1	4	2	2	2	60
		30.0	23.3	28.3	1.7	6.7	3.3	3.3	3.3	12.1
		18.0	11.2	16.0	2.0	8.7	13.3	6.9	8.3	
Tuesday		15	24	14	9	7	2	4	3	78
		19.2	30.8	17.9	11.5	9.0	2.6	5.1	3.8	15.8
		15.0	19.2	13.2	18.4	15.2	13.3	13.8	12.5	
Wednesday		18	26	18	9	14	1	6	4	96
		18.8	27.1	18.8	9.4	14.6	1.0	6.3	4.2	19.4
		18.0	20.8	17.0	18.4	30.4	6.7	20.7	16.7	
Thursday		16	19	14	9	6	1	8	3	76
		21.1	25.0	18.4	11.8	7.9	1.3	10.5	3.9	15.4
		16.0	15.2	13.2	18.4	13.0	6.7	27.6	12.5	
Friday		8	10	10	6	6	6	2	3	51
		15.7	19.6	19.6	11.8	11.8	11.8	3.9	5.9	10.3
		8.0	8.0	9.4	12.2	13.0	40.0	6.9	12.5	
Saturday		17	16	15	8	5	2	2	6	71
		23.9	22.5	21.1	11.3	7.0	2.8	2.8	8.5	14.4
		17.0	12.8	14.2	16.3	10.9	13.3	6.9	25.0	
	COLUMN TOTAL	100	125	106	49	46	15	29	24	494
		20.2	25.3	21.5	9.9	9.3	3.0	5.9	4.9	100.0

Note: With small numbers of episodes per cell and the large number of cells, the chi-square statistic is not meaningful. These data should be viewed descriptively. Chi-square = 45.13319; p = .3423.
(Data based on the unique episode file).

correctional staff, volunteers, or visitors. The greatest number of episodes were inmate to inmate conflicts in which COs interceded physically (213 or 43.1%). Inmate violence directed at an officer, an encounter involving two individuals, describes the second most frequent valence category and accounted for 172 (34.8%) of study episodes. Those situations where one inmate physically assaulted and battered two or more other individuals, such as officers, inmates, and/or other staff comprised the third most frequent valence (80 or 16.2% of study episodes).

Occurrence of other valence categories was infrequent. There were two incidents (0.4%) that were best described as officer to inmate directed conflict, with the officer acting as the aggressor. Eleven (2.2%) episodes involved two to five inmates assaulting one officer, while five incidents (1.0%) involved six or more inmates in conflict with several COs. An example of the latter type of episode was an incident that occurred in a dormitory at MHC directly involving nearly 20 inmates and over 15 COs. (The exact number of inmates and COs could not be established.) Multiple inmate confrontations represent incidents that correctional personnel fear might be precursors to riots. An "other" category was used to describe those episodes that were not otherwise characterized by these categories.

In subsequent analysis, several valence categories were collapsed. The "other" category included "officer to inmate" and "multiple inmate confrontations of six or more". "Inmate to officer" and "inmates (two to five) to officer" categories were also combined. Table 4.36 displays the episode distribution by valence and institution. Distinct differences in types of episodes exist between institutions.

Table 4.36

Direction of Encounter (Valence) by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Direction	COUNT / ROW PCT / COL PCT	Institutions MCTC	MDP	MCIH	MCIJ	MHC	MCIW	MRDCC	BBCF/ PRS	ROW TOTAL
Inmate - Inmate		63	31	47	21	12	10	19	10	213
		29.6	14.6	22.1	9.9	5.6	4.7	8.9	4.7	43.1
		63.0	24.8	44.3	42.9	26.1	66.7	65.5	41.7	
Inmate(s) - Officer		24	64	29	21	25	4	5	11	183
		13.1	35.0	15.8	11.5	13.7	2.2	2.7	6.0	37.0
		24.0	51.2	27.4	42.9	54.3	26.7	17.2	45.8	
Inmate - Officers/Others		12	26	23	5	7	1	4	2	80
		15.0	32.5	28.8	6.3	8.8	1.3	5.0	2.5	16.2
		12.0	20.8	21.7	10.2	15.2	6.7	13.8	8.3	
Other		1	4	7	2	2	0	1	1	18
		5.6	22.2	38.9	11.1	11.1	0.0	5.6	5.6	3.6
		1.0	3.2	6.6	4.1	4.3	0.0	3.4	4.2	
	COLUMN TOTAL	100	125	106	49	46	15	29	24	494
		20.2	25.3	21.5	9.9	9.3	3.0	5.9	4.9	100.0

Note: These data are based on the unique episode file.

In addition to the officers and inmates involved in study episodes (see first subsection), 11 events also involved other individuals. Two incidents (0.4% of all episodes) involved psychological counselors, five episodes (1.0% of all episodes) included classification counselors, and four incidents (0.8% of all episodes) included a nurse. One of these individuals sustained a minor injury as a result of involvement. The nurse's involvements were in response to combative behaviors by inmate patients with probable mental health problems.

Two-thirds of study events at MCIW, MRDCC, and MCTC were characterized as inmate to inmate directed conflict which resulted in the physical involvement of COs. Two-fifths of the episodes at MCIJ, MCIH, and BBCF/PRS were inmate to inmate conflict, as well. In contrast, only one-quarter of the episodes at MHC and MDP were inmate to inmate directed conflict. Several possible explanations for this pattern have been suggested by DOC and line correctional officers. MDP and MHC may be more accepting of inmate fights, with COs less likely to become involved and/or report their occurrence. Several line COs at MHC have stated that some supervisors discourage reporting inmate fights. (Refer to earlier discusssions of MHC.)

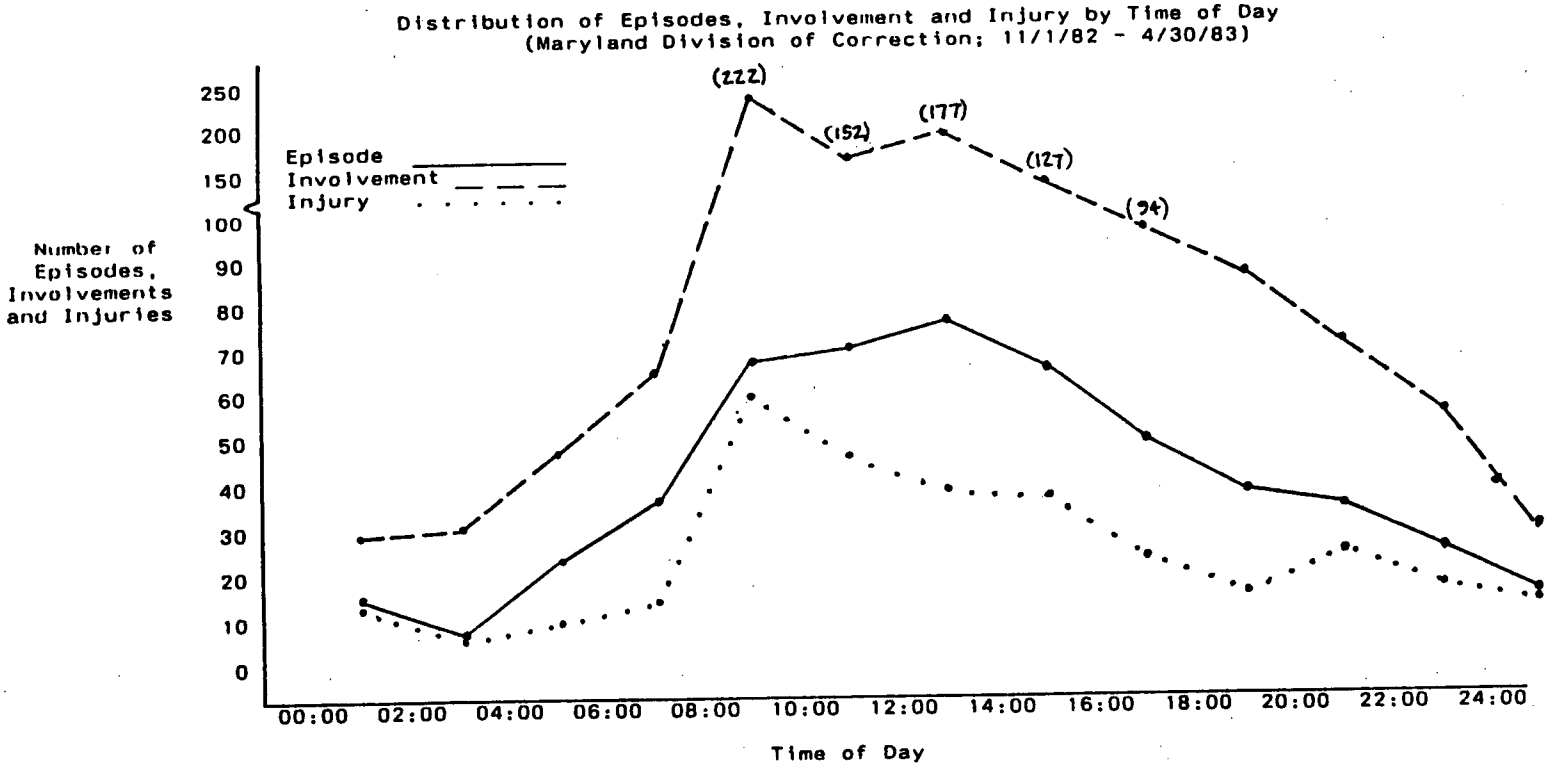
4.4.1.5 Time of Day: The time of day was relevant to the occurrence of study episodes. Table 4.37 displays the distribution of episodes, involvement, and injury by time. High frequency periods for episodes are characterized by "awake" periods for most inmates, unstructured, mass inmate movements, unstructured inmate activities, and/or officers changing shifts. The time period with the highest frequency is from 12 noon to 2 p.m., a period when inmates are returning

from work and school assignments or are relaxing in their housing or recreation areas. Some COs may also be eating lunch, leaving several posts covered by "relief" COs. The full complement of officers would not be actively staffing the prison.

The other high incidence periods are 8 a.m. to 10 a.m., 10 a.m. to 12 noon, and 2 p.m. to 4 p.m. The 8 a.m. to 10 a.m. period occurs after the inmate breakfast period and involves inmates going to and performing their work and school assignments. Much of the inmate movement is unstructured, with ample opportunity for inmate interaction. Those inmates not on cell restriction (i.e., segregation and protective custody), were then free to mingle. During the 10 a.m. to 12 noon period inmates eat lunch, which involves inmate movement to their housing area, to the dining room, back to their housing area, and then, for many, back to work or class. Movement to and from the dining room is fairly structured, but the numbers of inmates from different housing areas interacting in a limited area is quite high. For instance, in an institution housing about 1500 people, there may be 500 or more inmates in the dining hall and entry hallways at one time.

During the 2 p.m. to 4 p.m. period, COs are changing shifts and inmates are returning from work and school assignments. There is opportunity for unstructured inmate interaction during this period. Shift times vary among the institutions with most COs on one of three shift patterns — 6 a.m. to 2 p.m., 2 p.m. to 10 p.m. and 10 p.m. to 6 a.m.; 7 a.m. to 3 p.m., 3 p.m. to 11 p.m., and 11 p.m. to 7 a.m.; or 8 a.m. to 4 p.m., 4 p.m. to 12 midnight, and 12 midnight to 8 a.m. Odd shifts, such as 4 a.m. to 12 noon, are worked by special categories of COs, such as correctional dietary officers. However, these latter COs are

Graph 4-37


Distribution of Episodes, Involvement and Injury by Time of Day
(Maryland Division of Correction; 11/1/82 - 4/30/83)
Episode
Involvement
Injury
Number of Episodes, Involvements and Injuries
250
200
150
100
90
80
70
60
50
40
30
20
10
0
(222)
(152)
(177)
(127)
(94)
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
24:00
Time of Day

predominantly performing jobs versus staffing security positions. (A discussion of injury distribution by time will be presented in the final section of this chapter.)

4.4.1.6 ***Event Preceding Episode***: Episode analysis included identification of the event that preceded the battery/assault and battery interaction between correctional officer(s) and inmate(s). In 25.1% of the study episodes (124 cases), a prior event or behavior could not be identified. That is, the study episode began with actual battery rather than some other act, such as withholding contraband. Another 60 episodes (12.1%) began as a battery attempt, including throwing objects or refuse. Inflammatory talk, actions and verbal threats were precursors to 20% (99) of study episodes. Withholding contraband and resisting personal searches characterize the initial behaviors of 6.5% (32) of study incidents while resisting transfers (as to a segregation cell) occurred in 4.9% (24) of assault and battery episodes. Disobeying orders, passively and actively, was a fairly frequent episode precursor (14.2% or 70 incidents). Actively disobeying orders included inmate actions such as pulling away or running from an officer. There were 21 episodes (4.3%) of stealing preceding an assault and battery of an officer. Bizarre or psychotic conduct by an inmate preceded 2.8% (14) of study episodes. Other episodes (classified in collapsed form as "other") began with more infrequent events such as excessive noise (7), property destruction (2), suicide threat (1), escape attempt (4), homosexual rape (1), homosexual advance (8), "snitching" or disclosing information (1), and other behaviors that could not be classified Some of the behaviors that preceded these events suggest a possibility of preventive intervention. For instance, CO

response to verbal abuse or threats might affect the subsequent inmate interaction and either potentiate or defuse a confrontation. Findings reported relevant to Pre-Questionnaire findings suggest that a concerned or conciliatory CO response to verbal abuse is related to a lesser likelihood of CO episode involvement. With 20% of study episodes preceded by inflammatory talk and actions, this finding seems relevant to a significant percentage of assault and battery incidents.

Table 4.38 lists the distribution of behaviors or events that preceded study episodes by institution. Several interesting findings help to characterize the differences in episode variables between institutions. The MDP and MCIH had the majority of episodes preceded by inflammatory behaviors {31.3%, respectively}. Of the cases for which no prior behaviors other than battery (with and without injury) could be identified, 57.4% (39) of those without injury occurred at MCTC, while 57.1% of those with injury occurred at MCIH. Perhaps, these events actually began in this fashion or, perhaps, preceding behaviors and events are not reported. Non-reporting, if it exists, may represent inattention to precursors in the investigation of these episodes or de-emphasis of their importance. Implications of these findings will be discussed in greater detail in the following chapter.

Table 4.39 presents the distribution of preceding event by the frequency of episode involvement (low = 1 to 2; high = 3+). Frequently involved COs (3+ episodes) were more likely to report "battery with injury" as the preceding event rather than other events or behaviors. These individuals also seemed to have more difficulty with inmates who were psychotic/bizarre or who resisted transfer to another cell or institution.

Table 4.38

Behaviors/Events Preceding Episodes by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Initial Event	COUNT / ROW PCT / COL PCT	Institutions								
		MCTC	MDP	MCIH	MCIJ	MHC	MCIW	MRDCC	BBCF/ PRS	ROW TOTAL
Inflammatory Talk/ Inflammatory Action/ Verbal Threat		8	31	20	8	7	10	7	8	99
		8.1	31.3	20.2	8.1	7.1	10.1	7.1	8.1	20.1
		8.0	24.8	18.9	16.3	15.2	66.7	24.1	34.8	
Withholding Contraband/ Resisting Search		8	6	4	8	2	0	1	3	32
		25.0	18.8	12.5	25.0	6.3	0.0	3.1	9.4	6.5
		8.0	4.8	3.8	16.3	4.3	0.0	3.4	13.0	
Resisting Transfer		0	8	6	3	6	0	1	0	24
		0.0	33.3	25.0	12.5	25.0	0.0	4.2	0.0	4.9
		0.0	6.4	5.7	6.1	13.0	0.0	3.4	0.0	
Assault and Battery Without Injury		39	15	3	2	2	0	6	1	68
		57.4	22.1	4.4	2.9	2.9	0.0	8.8	1.5	13.8
		39.0	12.0	2.8	4.1	4.3	0.0	20.7	4.3	
Assault and Battery With Injury		3	4	32	5	5	3	4	0	56
		5.4	7.1	57.1	8.9	8.9	5.4	7.1	0.0	11.4
		3.0	3.2	30.2	10.2	10.9	20.0	13.8	0.0	
Disobey Orders, Passive and Active		15	19	10	5	14	1	2	4	70
		21.4	27.1	14.3	7.1	20.0	1.4	2.9	5.7	14.2
		15.0	15.2	9.4	10.2	30.4	6.7	6.9	17.4	
Stealing		2	3	3	7	2	0	1	3	21
		9.5	14.3	14.3	33.3	9.5	0.0	4.8	14.3	4.3
		2.0	2.4	2.8	14.3	4.3	0.0	3.4	13.0	
Bizarre or Psychotic Behavior		1	2	8	2	0	0	1	0	14
		7.1	14.3	57.1	14.3	0.0	0.0	7.1	0.0	2.8
		1.0	1.6	7.5	4.1	0.0	0.0	3.4	0.0	
Attempted Battery/ Throwing Objects or Refuse		21	26	6	1	2	0	4	0	60
		35.0	43.3	10.0	1.7	3.3	0.0	6.7	0.0	12.2
		21.0	20.8	5.7	2.0	4.3	0.0	13.8	0.0	
Other*		3	11	14	8	6	1	2	4	49
		6.1	22.4	28.6	16.3	12.2	2.0	4.1	8.2	9.9
		3.0	8.8	13.2	16.3	13.0	6.7	6.9	17.4	
	COLUMN TOTAL	100	125	106	49	46	15	29	23	493
		20.3	25.4	21.5	9.9	9.3	3.0	5.9	4.7	100.0

*Includes property destruction, excessive noise, disclosing information, homosexual advance, homosexual rape, escape attempt, and other miscellaneous events.

Table 4.39

Distribution of Preceding Event
by Frequency of Episode Involvement
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	1-2 COs Involved %	(#)	3+ COs Involved %	(#)	Row Total	
Inflammatory Talk/Action	16.8	(113)	16.3	(77)	16.6	(190)
Withhold Contraband/Resist Search	6.7	(45)	5.9	(28)	6.4	(73)
Resist Transfer	5.5	(37)	7.6	(36)	6.4	(73)
Battery With No Injury	12.9	(87)	11.7	(55)	12.4	(142)
Battery with Injury	17.0	(114)	22.5	(106)	19.2	(220)
Disobey Orders (Passive/Active)	12.9	(87)	11.7	(55)	12.4	(142)
Stealing	5.7	(38)	3.2	(15)	12.4	(142)
Bizarre Psychotic Behavior	2.5	(17)	4.4	(21)	3.3	(38)
Attempted Battery/ Throw Objects and Refuse	10.4	(70)	10.06	(47)	10.2	(117)
Other	9.5	(64)	6.8	(32)	8.4	(96)
Column Total	58.7	(672)	41.3	(472)	100.0	(1144)

Chi-square = 16.64; D.F. = 9; p = .05; Gamma = -.035

Note: Based on cumulative officer file.

4.4.1.7 Inmate Substance Abuse: Substance abuse, a condition frequently associated with violence occurring in the community, was examined for its relevance to the occurrence of assault and battery events during the study. Note, however, the inability of the researcher to document through a source other than the infraction ticket the use or non-use of mind-altering substances. Furthermore, COs were not specifically instructed to make a determination concerning inmate use or non-use of these substances. Because of this, the use of these substances in study episodes was probably higher than that reported by the involved COs. There were only 14 reported episodes (2.8% of all episodes) involving alcohol and/or other mind-altering substances. The substances named most frequently were alcohol (i.e., "jump steady" or "fermented juices") and a solvent used for cleaning purposes and inhaled by the offending inmate.

4.4.2 Findings Relevant to Correctional Officers Involved in Assault and Battery Episodes and Injury Outcome - The following subsection presents episode findings characterizing officer involvement. Factors discussed in this section include the number of COs involved per episode and by institution, weapons used by COs, methods of control, the number and seriousness of CO injuries and sociodemographic characteristics. As noted earlier, two files were used in the analysis of CO variables. The cumulative file was used in the analysis of factors, such as "weapon", that potentially varied with each episode involvement. The unique file was applicable in the analysis of sociodemographic factors.

4.4.2.1 Officer/Episode Ratios: Assault and battery episodes

varied by the number of COs involved, as well as by site, time, and the other factors discussed earlier. Most episodes (64.6% or 321) involved more than one CO, while 81.1% (396) involved one to three officers. Of the 8.9% of episodes involving four or more COs, ten episodes included eight or more COs in physical conflict with inmates. These latter incidents tended to be the most serious in terms of the resulting CO and inmate injuries. Table 4.40 summarizes the average number of COs per episode and the average number of episodes per CO by institution. The differences between institutions for number of COs per episode were significant at $p = .0000$ ($F = 5.678$). (See the first section of this chapter for further discussion of the "officer per episode" variable).

Examining the number of episodes per CO by the initial site of the event reveals that those COs involved in five or more episodes were much more likely to be involved in episodes occurring in a segregation/protective custody housing area (i.e., 103 COs or 58.5% of all COs involved in five or more episodes experienced one or more of those involvements in a segregation/protective custody area). This finding might help to explain the relatively high proportion of COs with multiple involvements at MCIH. As noted earlier, MCIH contains 40% of all the DOC segregation/protective custody beds.

4.4.2.2 ***Officer Weapons:*** The weapons used by officers in altercations with inmates are discussed below. For the most part, body parts, such as fists, arms, and/or the entire upper torso, were used to defend themselves and gain control of inmates. Table 4.41 displays the distribution of weapons by the injury outcome of the officers involved. The cumulative CO file was used for this analysis.

Table 4.40

Average Number COs Involved in Episodes and Average Number of Episodes Per CO by Institution
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Institution	Average # COs Per Episode	Average # Episodes Per CO	# Episodes	# COs Involved
MCTC	2.17	1.66	100	122
MDP	2.32	1.99	125	142
MCIH	3.17	2.22	103	152
MCIJ	1.87	1.46	47	63
MHC	2.49	1.26	45	87
MCIW	1.73	1.27	15	22
MRDCC	2.41	1.40	29	48
BBCF/PRS	1.83	1.29	24	31
DOC	2.41	1.73	488*	667*

* 6 missing cases

Table 4.41

Weapons Used by Correctional Officerby Injury Outcome to the Officer
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Weapon (COUNT / ROW PCT / COL PCT)	Not Injured	Injured	ROW TOTAL
None	93 93.0 11.1	7 7.0 2.3	100 8.8
Fist/Hand	292 91.3 35.0	28 8.8 9.2	320 28.1
Arms/Upper Torso	184 84.4 22.0	34 15.6 11.2	218 19.2
Multiple Body Parts (including Foot)	78 38.8 9.3	123 61.2 40.6	201 17.7
Handcuffs	38 95.0 4.6	2 5.0 .7	40 3.5
Multiple Weapons or Multiple Body Parts and Weapon(s)	126 54.8 15.1	104 45.2 34.3	230 20.2
Other *	24 82.8 2.9	5 17.2 1.7	29 2.5
COLUMN TOTAL	835 73.4	303 26.6	1138 100.0

* Includes handguns (4), club (2), MACE (6), water cannon (1), eating utensils (1), rifle/shotgun (7), and other (8).

Note: chi-square = 260.15; p = 0.00; Gamma = 0.3235

Clearly, those COs using multiple body parts in confrontations with inmates were more likely to be injured as compared with COs using other weapons (123 COs or 61.2% of COs in this category). From the written description of these altercations, these episodes could be characterized as "no holds barred wrestling matches", with kicking, punching, and tackling behaviors evident. Note also that prison surroundings are hard and unyielding, with concrete floors and walls, steel bars, and iron beds in the fight vicinity. Officers using multiple body parts and weapons (MACE, batons, etc.) were the second most likely group of COs to be injured (104 or 45.2% of this group). It would seem that other weapon choices, when and if they are possible, are less likely to result in CO injuries.

The "other" category included exogenous weapons, such as MACE, handguns, and batons. These weapons tended to be used sparingly, and, for guns, in restricted sites. (Guns were used by COs transporting inmates outside of a prison perimeter and by those staffing perimeter walls and patrols). When "other" weapons were used, the altercation was considered serious. Yet, in spite of the serious nature of the altercation, there was a smaller proportion of inmates injured (5 or 17.2% of those using an "other" weapon) as compared to COs who grappled with inmates.

4.4.2.3 ***Type of Participation:*** Principal and secondary methods of control used by COs in response to inmate assault and battery further helped to describe study altercations. The principal method of control was considered to be the approach that was most successful in bringing the episode to an end and the inmate under control. In contrast, the secondary method of control was the less successful method, and, usually,

the initial attempt to control the inmate's behavior. Data available did not permit examination of the potential for successful control if the "secondary method" had been used over a longer period of time or another method had been introduced, with the exception of verbal intervention. The relevance of verbal intervention to involvement and injury has been examined to some extent in an earlier section dealing with Pre-Questionnaire data. Of those COs not injured, 8.5% (71) and 21.6% (180) used a verbal intervention as a primary and secondary method of control, respectively. This pattern contrasted with those COs who were injured, with 1.3% (4) and 7.9% (24) using this method as primary and secondary methods. The intensity of violence may also have varied between injury-producing and non-injury-producing episodes. These aspects will be further explored in the next section. Table 4.42 summarizes the principal and secondary methods of control by CO injury outcome.

As the number of COs restraining inmate(s) increased, so did the likelihood of CO injury. This does not mean, however, that an increased number of COs responding to an altercation results in an increased likelihood of CO injury. Rather, the number of COs necessary to restrain (an) inmate(s) is, at least in part, a function of the number of inmates involved and the type and strength of the inmates' battery behaviors. A majority of COs, injured and not injured, used physical restraint as the principal method of control (855 or 75.0%). Of those COs who were injured, 260 (86.1%) used physical restraint as a method of control. In comparison, 595 of the 837 (71.1%) COs not injured used physical restraint.

The success of MACE (i.e., chemical method) in controlling

Table 4.42

Principal and Secondary Methods of Control Employed by Correctional Officers in Assault and Battery Altercations with Inmates (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Methods	Principal Method: % Using Method That Were Injured* (#)	Principal Method: % of All Involved COs (#) Using Method	Secondary Method: % Using Method That Were Injured** (#)	Secondary Method: % of All Involved COs Using Method (#)
Verbal	5.3 (4)	6.6 (75)	11.8 (24)	18.0 (204)
Physical Restraint by 1 CO	19.5 (30)	13.5 (154)	21.3 (17)	7.0 (80)
Physical Restraint by 2 COs	24.4 (60)	21.7 (248)	25.6 (31)	10.7 (122)
Physical Restraint by 3 COs	32.4 (59)	16.0 (182)	26.3 (20)	6.7 (76)
Physical Restraint by 4+ COs	40.7 (111)	23.9 (273)	34.5 (49)	12.5 (142)
Chemical (MACE)	17.2 (5)	2.5 (29)	58.1 (25)	3.8 (43)
Handcuffs	11.1 (7)	5.5 (63)	33.0 (98)	26.2 (297)
Confiscate Weapon	13.2 (2)	1.3 (15)	9.5 (2)	1.9 (21)
Immediate Lockup	28.1 (9)	2.8 (32)	22.4 (17)	6.7 (76)
Other***	21.4 (15)	6.1 (70)	25.7 (19)	6.5 (74)
Total Injured	26.5 (302)	100.0 (1141)****	26.65 (302)*****	100.0 (1135)******

* Chi-square = 64.30; p = 0.0000; Gamma = 0.1429

** Chi-square = 61.13; p = 0.0000; Gamma = 0.1660

*** Includes rifle/shotgun, blow with fist, blow with other object.

**** 4 missing cases

***** The difference in the percent of injured COs is due to rounding.

****** 10 missing cases

battering inmates without CO injury seems at times to be lacking. MACE is usually reserved for serious altercations. When used initially (as was the usual case for "secondary methods"), 58.1% (25) of those officers employing MACE were injured. This contrasted to the use of MACE as a principal method (usually the second method chosen) with only 17.2% (5) of employing officers injured. Of those COs who were injured, 1.7% (5) of COs used MACE as a principal method of control as compared to 2.9% (24) of COs not injured.

The type of initial officer involvement was also examined, that is, identification of the CO's participation as primary or secondary. Primary participants were the initial officers on the scene. In some situations, these officers were involved as the conflict developed. Secondary participants were officers who provided backup support, arriving on the scene after the conflict was in progress. COs were primary participants in study episodes 723 (63.4%) times as compared to 418 (36.6%) times as secondary participants. Those COs with multiple episode involvements were more likely to be primary participants, indicating that "repeaters" might be posted in high risk areas and/or have high risk behaviors. Note, however, that an officer's injury outcome was not correlated with his/her type of participation. Primary participants were no more likely to be injured than secondary participants.

4.4.3 Findings Relevant to Inmates Involved in Assault and Battery Episodes: Inmate factors discussed in the following subsection include sociodemographic characteristics, the frequency of episodes per involved inmate, type of housing, weapons, injury occurrence and severity, sentence length, sentence time remaining disciplinary action received,

Legal Dangerousness Scale (LDS) score, security classification, and frequency of involvement by institution. Unlike correctional officer variables, data relevant to inmates is usually available only for those offenders involved in study episodes. How involved inmates differed from uninvolved inmates was undeterminable for many of the study variables.

As noted earlier, there were 607 different inmates who assaulted and battered COs in the 494 study episodes. Of the 607 inmates, 85.5% (519) battered a CO a single time. There were 10.5% (64) inmates who battered twice, 2.1% (13) who battered three times, 0.8% (5) who battered four times and 1.0% (6) who battered five or more times. One inmate battered COs ten times.

4.4.3.1 Inmate Sociodemographic Characteristics: Tables 4.43 and 4.44 summarize involved inmate sociodemographic characteristics, based on analysis using the unique inmate file. As compared to the DOC inmate population, battering inmates were more likely to be black, younger, sentenced longer, and housed at MCIH. These involved inmates had LDS scores averaging 9.27, a score indicating "dangerousness" as defined by Steadman and Cocozza (1972, 1973). Unfortunately, LDS scores for non-involved inmates were not available. The proportion of male and female inmates involved in battery episodes with COs is comparable to their distribution in the DOC inmate population. Inmates involved in more than one episode were most likely to have been classified as medium security and next most likely as maximum security (i.e., based on comparisons between unique and cumulative inmate file frequencies and the inmate's, not institution's, security classification). The proportion of medium security exceeds maximum security inmates in

Table 4.43

Unique Battering Inmates' Sociodemographic Characteristics
(Sex, Race, Institution, and Security Classification)
Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable	# Involved Inmates (%) *		# of All DOC Inmates (%) **	
Sex				
Male	580	(96.3)	10425	(96.6)
Female	22	(3.7)	370	(3.4)
Race				
Black	444	(85.4)	8047	(72.4)
White	76	(14.6)	3043	(27.4)
Institution				
MCTC	142	(23.4)	2379	(22.0)
MDP	113	(18.6)	1598	(14.8)
MCIH	135	(22.2)	1478	(13.7)
MCIJ	57	(9.4)	923	(8.6)
MHC	69	(11.4)	1627	(15.1)
MCIW	21	(3.5)	345	(3.2)
MRDCC	37	(6.1)	747	(6.9)
BBCF	26	(4.3)	530	(4.9)
PRS	7	(1.2)	1168	(10.8)
DOC	607	(100.0)	10795	(100.0)
Inmate Security Classification				
Maximum	142	(23.4)	N/A	
Medium	431	(72.6)	N/A	
Minimum	13	(2.2)	N/A	
Pre-Release	8	(1.3)	Not Available	

* Based on unique inmate file.
** The sub-category numbers are based on average DOC inmate totals for 1/33.

Table 4.44

Unique Battering Inmates' Sociodemographic Characteristics by Institution
(Age, Sentence Length, Legal Dangerousness Scale Score)
Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable	Involved Inmates Mean	Institutional Inmate Mean
Age		
MCTC	22	25
MDP	27	32
MCIH	24	26
MCIJ	28	30
MHC	31	33
MCIW	25	30
MRDCC	25	28
BBCF	24	27
PRS	26	28
DOC	25.5	
Length of Sentence (months)	160 *	129 *
Sentence Time Remaining (months)	127 **	Not Available
Legal Dangerousness Scale (LDS) Score ***	9.27	Not Available

* Excludes life sentences, which account for sentences of 6.3% of DOC inmate population.

** Includes life sentences, coded as 1212 months, which account for 3.0 % (18) of involved inmates.

*** LDS range = 0 to 15

the DOC population, but the specific numbers and percentages were not available for comparison.

4.4.3.2 Inmate Housing: Involved inmates were classified according to their assigned housing type. Unfortunately, comparative data for the inmate cohort by all housing types was not available. The inmate cumulative file was used in this analysis because inmates with multiple involvements had a high probability of having had different housing after the initial episode. Furthermore, weighting housing type is appropriate when considering the relative risk potentially accounted for by housing conditions. Table 4.45 displays the distribution of involved inmates by housing type. As can be seen, inmates housed in segregation/protective custody cells are represented disproportionately high as compared to the total percentage of these beds in the system (i.e., 12.3% of all DOC beds as compared to 45.0% of involved inmates). Very few involved inmates (7) were housed in protective custody cells, but because these cells were frequently grouped with segregation cells, and similar inmate exercise, feeding, and security precaution practices were used, these cells were combined in the final analysis.

Inmates housed in segregation areas (i.e., special confinement population) must be considered high risk individuals in terms of the likelihood of initiating or participating in battery encounters with officers. Implications for officer staffing and procedures relevant to this trend will be discussed in the following chapter.

4.4.3.3 Inmate Weapons: The weapons used by inmates in conflict with staff differed to some extent from the weapons used by COs. Of involved inmates, 69.8% (516) used a body part as a weapon. Because

Table 4.45

Distribution of Inmates Involved in Episodes by Inmate Housing Type (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Housing Type	# Inmates Housed	% Inmates Housed
Single Cell - Regular	64	9.6
Double Cell - Regular	149	22.3
Dormitory/Quonset Hut/Trailer	127	19.0
Single Cell - Segregation/PC *	119	17.8
Double Cell - Segregation/PC *	182	27.2
Other (including Cottage)	26	3.9
Missing Cases	77	missing
Total	744	100.0

* 45.0% of inmates who assaulted and battered COs were housed in segregation cells at the time of the episode. Only 7 inmates in these categories were housed in protective custody cells.

Note: Based on the cumulative inmate file.

weapons used by a unique inmate may have differed with each episode involvement, if applicable, the cumulative inmate file was used in determining the frequency of use for various weapon types. Table 4.46 lists the weapons inmates used.

As with officer weapons, the category multiple body parts (i.e., wrestling, grappling, punching, kicking, falling) was associated with a majority of CO injuries. Though only 29.8% (220) of the involved inmates used this method, it was associated with 69.4% (211) of the CO injuries. Though not as common, multiple body parts plus other weapon(s) also had a comparatively high proportion of injuries as compared to frequency of use (i.e., 12.5% of all CO injuries and 8.7% of involved inmates used this method).

Weapons classified as "other" were used infrequently (6.6% of inmates). Unexpectedly, knives and shanks did not account for a high proportion of CO injuries (2.3%), though when used (i.e., by 16 inmates), accounted for seven CO injuries.

4.5 *Multivariate Analysis*

The following section presents those combinations of variables that best predict the dependent variables. The first subsection deals with regression models predicting the outcome or dependent variable, "correctional officer **involvement** in assault and battery episodes with inmates." Involvement is dichotomized - involved and not involved. Analysis consisted of stepwise multiple regression using listwise deletion of missing data. Because several categorical variables could be coded a number of ways, multiple regression runs were performed to identify that model which was most predictive. For example, institutions were

Table 4.46

Distribution of Weapons Used by Inmates who Assaulted and Battered Correctional Officers and Injuries to COs from these Weapons (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Weapon	# of Inmates Using Weapon	% of Inmates Using Weapon	% of Inmates Using Weapon Injuring CO	% of All CO Injury From Weapon (#) *
None **	50	6.8	0.0	0 (0)
Fist/Hand	229	31.0	7.9	5.9 (18)
Arms/Upper Torso	67	9.1	20.9	4.6 (14)
Multiple Body Parts ***	220	29.8	96.0	69.4 (211)
Knife/Shank	16	2.2	43.8	2.3 (7)
Club/Mop/Baton	14	1.9	0.0	0 (0)
Food/Fluid	30	4.1	3.3	0.3 (1)
Multiple Body Parts and Other Weapons	64	8.7	59.4	12.5 (38)
Other ****	49	6.6	30.6	5.0 (15)
Totals	739	100.0	100.0	100.0 (304)

* Chi-square = 266.17; p = 0.0; Gamma = 0.3687

** These inmates were physically involved in a study episode, but were considered "victims" of another inmate's aggression.

*** Multiple Body Parts included teeth (4).

*** "Other" included handcuffs (1), furniture (6), glass (3), food tray (4), and eating utensils (2).

recoded according to their security classification, location (urban, suburban, and rural), and officer to inmate racial disparity ratio. The latter variable was not related to officer involvement. Consequently, the institutional racial disparity factor was not incorporated in the regression analysis.

A merged file, which included the master personnel and Pre-Questionnaire files, was used as the data source and included 1000 officers. Variables were selected for inclusion in the multivariate analysis with two principal criteria in mind. The variables had theoretical importance, contributing to a logical explanation of involvement of officers with inmates in violent conflict. Secondly, the variables included had significant bivariate relationships with the dependent variable, involvement of officers with inmates in assault and battery episodes.

The second subsection presents findings from the multivariate analysis of independent variables as predictors of the dependent, dichotomous variable, injured/not injured. Variables were drawn from two merged master personnel, Pre-Questionnaire, and assault and battery episode (unique and cumulative, correctional officer version) files. As with prior variable selection, variable inclusion was based on theoretical relevance and the presence of significant correlations between the variables included, and the occurrence of CO injury. Multicolinearity between any two independent variables, as reflected by high correlations (i.e., .6 and above), necessitated exclusion of selected assault and battery episode variables. For example, the variables "initial and primary site of the event" were highly correlated. For this reason, only the primary site of the episode was used. The final selection among variables that were

highly correlated was based on a determination of the variable that was the most powerful predictor. This determination was accomplished by incorporating each of the involved predictors in separate multiple regression analyses (Kerlinger and Podhazur, 1973; Gordon, 1974). Again, stepwise multiple regression was used.

Because the predictive power of Pre-Questionnaire and sociodemographic variables were, as expected, generally less than the power of episode variables, Pre-Questionnaire and sociodemographic variables were examined via multiple regression analysis without the inclusion of episode variables. This approach permitted the identification of an exclusive attitudinal/behavioral intention model and sociodemographic model relevant to the dependent variable without the strong influence of episode variables.

4.5.1 Predictive Models of Involvement: As noted earlier, correctional officer involvement with inmates in physical conflict was correlated with specific attitudinal and behavioral indicators. These variables were statistically significant, but as individual items, they were not powerful predictors.

4.5.1.1 Pre-Questionnaire Model of Involvement: Height, a physiological measure included in the Pre-Questionnaire, was also found to be correlated with involvement. Table 4.47 presents the results of the attitudinal/behavioral model.

Characteristics associated with episode involvement were height (tall), positive history of injury due to prior conflict with inmates, and reporting that they dealt with job-related anger, anxiety, and unhappiness by "deal(ing) harshly with inmates", "try(ing) to change the system", and

Table 4.47

Results of Stepwise Multiple Regression of Pre-Questionnaire Var iables on Correctional Officer Episode Involvement (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	**β**	**SE β**	**BETA**	**T**	**SIG T**
Total # Injuries Due to Inmate	.01099	3.0001E-03	.11379	3.663	.0003
Height	.01373	4.6689E-03	.09202	2.940	.0034
Deal Harshly with Inmates (Coping)	.17134	.06322	.08482	2.710	.0068
COs Aggravate Inmate (Why CO Injury?)	-.09790	.03407	-.09028	-2.874	.0041
Try Change System (Coping)	.10478	.05035	.06480	2.081	-.0377
Work Out/Sports/Labor (Coping)	.05789	.02902	.06192	1.995	.0463
(Constant)	-.72203	.32906	---	-2.194	.0285

Note: Based on involved and non-involved officer data (merged, unique CO file).

Multiple R = .22093

R Square = .04881

Adjusted R Square = .04306

Standard Error = .43896

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	6	9.91885	1.63647
Residual	993	191.34015	.19269

F = 8.49283; Significant F = .0000

Pin = .050 limits reached

"work(ing) it out through sports or physical labor". Involved officers were less likely to attribute officer injuries due to assaultive episodes to "aggravating an already agitated inmate". Note, however, that the attitudinal/behavioral model explains only 4.4% of the variance of the dependent variable -- involvement.

The height of an officer may be relevant to involvement for a number of reasons. Tall officers (versus short officers) in many institutions were frequently assigned to the "quick response" or relief and escort team, a group of COs deployed when fights occurred and responsible for escorting inmates. MCIH, in particular, followed this staffing pattern. This type of assignment increases the likelihood of officer involvement in inmate altercations. Involvement of large officers may also be a self-selection process, with large men more likely to handle conflict via physical intervention, as compared with small men. The shorter, smaller individual may perceive himself at greater risk, as compared with the large, tall individual and, therefore, less likely to become involved physically with inmates.

An increased "number of prior injuries" for involved COs due to assaults by inmates may be a reflection of prior high risk assignments and/or prior high risk behaviors. It would seem that these factors are still influential. Bivariate relationships also existed for "number of verbal assaults in the preceding 30 days", "number of physical assaults in the preceding 30 days", and "number of total work days lost from battery injuries". These variables do not contribute significantly more explanatory power to the model than "number of prior battery injuries".

Three coping strategies on behavioral responses to job-related anger, anxiety, and unhappiness were related to future episode

involvement. Two of them reflect an active method of dealing with the work environment. "Deal harshly with inmates" as a behavioral response to negative work-related feelings may demonstrate a decreased patience with inmate problems, harassment, and conflict. Given these responses, encounters with inmates producing negative feelings may be more likely to escalate to physical conflict. As with the interaction resulting in community-based conflict described by Goffman (1967) and Toch (1969), an inability to compromise along with a need to maintain status may be related to the evolution of violence. Both "aggressor" and "victim" contribute to this interaction.

"Try to change the system" is a pro-active method of dealing with job-related problems and difficulties. Handling inmates in a pro-active, aggressive way may be 'an attempt to change the inmate', thereby heightening the likelihood of involvement. Dealing with negative feelings by working them out through sports and labor is a physical method of reducing tension. Perhaps, for officers using these coping strategies, the anger that might be generated in some situations with inmates is more likely to trigger a physical method of dealing with the situation. These COs might also have more of their ego maintained by a strong, physical image, further heightening the likelihood of physical involvement.

Other variables that demonstrated meaningful bivariate relationships with the dependent variable, but did not appear in the final stepwise multiple regression equation are presented in Table 4.48. A block method of entering variables in multiple regression analysis with listwise deletion of missing data was used. Based on the adjusted R square, this method did not contribute significantly to a predictive model of involvement (adjusted R square = .04306 for stepwise method versus

Table 4.48

Results of Block Method Multiple Regression of Pre-Questionnaire Variables on Correctional Officer Episode Involvement
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variables in the Equation

Variable	β	SE β	BETA	T	SIG T
Total # Lost Work Days Due to Assault and Battery Injuries	-5.79666E-05	2.8729E-04	-6.533E-03	-.202	.8401
Call for Assistance - First Response to Inmate Fighting	.04062	.03704	.04057	1.097	.2730
Talk with a Friend - Coping	-.02372	.03075	-.02461	-.771	.4407
Sports or Physical Labor - Coping	.05974	.02952	.06390	2.024	.0433
Abolish Death Penalty	8.62772E-03	.01472	.01862	.586	.5578
Reason Through Feelings - Coping	-.01799	.03604	-.01587	-.499	.6177
Don't Wait for Assistance - Why COs Injured	-.02698	.03087	-.02853	-.874	.3824
Neutral - Response to Verbal Abuse	.02529	.03446	.02448	.734	.4632
Deal Harshly with Inmates - Coping	.12087	.06588	.05984	1.835	.0668
Ask for Inmate Assistance - First Response to Inmate Fighting	.02958	.22511	4.164E-03	.131	.8955
Assaults Preventable? (Negative Response)	9.18195E-03	.02115	.01416	.434	.6642
Weight	-3.30696E-04	5.1421E-04	-.02473	-.643	.5203
Try to Change System - Coping	.10689	.05153	.06611	2.074	.0383
Never Excuse Law Breakers? (Negative Response)	-8.03687E03	.01016	-.02513	-.791	.4289
Fall Against Object - Why COs Injured	.02590	.02882	.02882	.899	.3690
Number of Verbal Assaults - 30 Days	2.40534E-04	3.3680E-04	.02289	.714	.4753
Are Injuries to Inmates Avoidable? (Positive Response)	.02004	.02092	.03042	.958	.3385
Let Inmates Fight for Awhile - First Response to Inmate Fighting	-.07713	.14489	-.01711	-.532	.5946
Have a Drink - Coping	.04737	.03353	.04542	1.413	.1581
Taken by Surprise - Why COs Injured	.03930	.02907	.04364	1.352	.1767
Number of Physical Assaults - 30 Days	.03993	.03300	.03968	1.210	.2266
Argue with Fellow COs - Coping	.07197	.07453	.03145	.966	.3345
Total Number of Assault and Battery Injuries	8.78411E-03	3.1892E-03	.09094	2.754	.0060
COs Aggravate an Agitated Inmate - Why COs Injured	-.07865	.03636	-.07253	-2.163	.0308
Aggressive - Response to Verbal Abuse	.03523	.03649	.03259	.965	.3346
Break Up Fight Immediately - First Response to Inmate Fighting	.06248	.05943	.03801	1.051	.2933
Height	.01320	5.7813E-03	.08852	2.284	.0226
(Constant)	-.79349	.37633		-2.107	.0354

Note: Based on involved and non-involved officer data (merged, unique CO file).

Multiple R = .25924
R Square = .06720
Adjusted R Square = .04129
Standard Error = .43937

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	27	13.51887	.50070
Residual	927	187.64013	.19305

F = 2.59369; Significant F = .0000

.04129 for block method). For some variables, such as height and weight, some degree of multicolinearity existed (r = .569), providing a possible explanation as to why a variable (i.e., weight) did not appear in the stepwise equation. Other variables, though statistically related to the dependent variable, were not powerful enough to add significantly to the predictive model.

4.5.1.2 ***Sociodemographic Model of Involvement:*** The sociodemographic variables drawn from the master personnel file that were correlated with involvement were examined using stepwise multiple regression. Four factors, age and length of DOC employment and two methods of coding institution (security classification and location), were included along with other variables in four separate regression runs. (These two variable pairs were highly correlated.) Age and institution classified by security rating proved to be the more powerful predictors. Table 4.49 presents the sociodemographic model that best predicts involvement.

Characteristics that differentiated involved COs were being CO IIs through Vs (line COs, sergeants, lieutenants, or captains versus recruits, majors, CMOs, or CDOs), younger, male, from a medium security institution, and, next most important, from a maximum security institution, and white. This combination of characteristics explained 10.4% of the dependent variable variance.

Rank may be related because of duty assignments' characteristics of these positions. New recruits (CO Is) are often assigned to low risk posts or paired with experienced officers, thereby reducing the risk of involvement. Majors rarely respond to an altercation and never staff a

Table 4.49

Results of Stepwise Multiple Regression of Correctional Officer Sociodemographic Variables on Officer Episode Involvement (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	**β**	**SE β**	**BETA**	**T**	**SIG T**
Rank (CO II - V)	.21216	.01851	.21555	11.461	.0000
Age	-7.14684E-03	8.3478E-04	-.16470	-8.561	.0000
Sex (Male)	.18599	.02585	.13882	7.194	.0000
Institution (Medium Security)	.21376	.02607	.22597	8.198	.0000
Institution (Maximum Security)	.17757	.02361	.20432	7.522	.0000
Race (White)	.03950	.01823	.04563	2.167	.0303
(Constant) *	4.85346E-04	.04416		.011	.9912

* The constant or intercept does not significantly contribute to the equation.

Note: Based on involved and non-involved officer data (merged, unique CO file).

Multiple R = .32492
R Square = .10557
Adjusted R Square = .10351
Standard Error = .40928

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	6	51.48521	8.58087
Residual	2604	436.19690	.16751

F = 51.22591; Significant F = .0000

Pont = .100 limits reached

duty post among inmates. CDOs and CMOs, with principal responsibilities for dietary and maintenance activities, seem to have a lessened risk of involvement.

As with other studies of violence, young males have a higher probability of involvement. Because females did not staff male inmate housing areas, and since most incidents involved male inmates and occurred in male housing areas, this may be a partial explanation for increased likelihood of male involvement. The relative youthfulness of involved COs is not as easily attributable to other factors. Rather, younger individuals may be more likely to utilize aggressive, physical methods in dealing with inmates. Note, however, that older COs (late 40s and above) are more likely to have been assigned to posts with less inmate interaction, such as tower and perimeter posts.

Institutions coded by security classification proved to be more influential than institutions classified by location. This was due in part to the high correlation between rural institutions and race (i.e., white), thereby reducing the total variance explained by the site of the institution. An interesting finding related to institutional security classification was the stronger relationship of medium versus maximum security institutions to involvement. The official inclusion of MCIH as a medium security institution, in spite of the high proportion of inmates assigned to segregation, contributed to this trend. Classified as a maximum security institution, MCIW's status also contributed to this finding. (A regression analysis with MCIW recoded as medium and MCIH recoded as maximum yielded a more powerful and appropriate relationship of institutional security classification to involvement. Maximum security institutions in the recoded form yielded the strongest

relationship to involvement. However, this finding was not reported because it was not an empirically valid code.)

Medium and maximum security institutions were related to involvement probably because they reflect, at least to some degree, the relative dangerousness of the incarcerated inmates. However, the security classification of institutions during the study points out the inadequacies of the prior (and current) classification system as a determinate of risk to COs; hence, medium security institutions had a stronger relationship to episode involvement than maximum security prisons. An examination of the prison classification process and the intended meanings of the labels is warranted.

White COs were more likely to be assaulted and battered by inmates. Racial prejudices and lifestyle/value system disparities (as demonstrated by the rural, suburban, and urban coding of institutions and their general forces) may contribute to this finding. Note that nearly three-fourths of the inmate population are urban blacks, while a significant proportion of the white officers are from a rural environment -- the Hagerstown area. These characteristics may be more likely to potentiate abrasive interactions between COs and inmates.

4.5.1.3 Sociodemographic and Pre-Questionnaire Model of Involvement: All meaningful variables from the merged personnel and questionnaire files were analyzed simultaneously, again using stepwise multiple regression. Table 4.50 presents the results of the multiple regression analysis explaining the highest percentage (12.02%) of the dependent variable variance.

Those variables that dropped out of the final model were the two

Table 4.50

Results of Stepwise Multiple Regression of Correctional Officer Sociodemographic and Attitudinal/Behavioral Variables (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	β	SE β	BETA	T	SIG T
Age	-8.45704E-03	1.4553E-03	-.18204	-5.811	.0000
Medium Security Institution	.22822	.03815	.24619	5.982	.0000
Sex (Male)	.22935	.05065	.14406	4.528	.0000
Maximum Security Institution	.18303	.04443	.16979	4.120	.0000
Total # Injuries Due to Inmate	.01059	2.9809E-03	.11078	3.554	.0004
Rank (CO II - V)	.12599	.04144	.09478	3.040	.0024
Try to Change System	.12401	.05200	.07444	2.385	.0173
CO Aggravate Agitated Inmate	-.07108	.03449	-.06453	-2.061	.0396
(Constant)	.10088	.08528		1.183	.2371

Note: Based on merged, unique officer file.

Multiple R = .35755
R Square = .12784
Adjusted R Square = .12021
Standard Error = .42953

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	8	24.74459	3.09307
Residual	915	168.81385	.18450

F = 16.76499; Significant F = .0000

Pin = .050 limits reached

coping responses "deal harshly with inmates" and "work it out through sports and physical labor", height (taller), and race (white). With both sociodemographic and Pre-Questionnaire variables present, the absent variables no longer contributed significantly to the model. As reflected by the adjusted R square, only a small proportion of CO episode involvement was explained by the Pre-Questionnaire and sociodemographic variables. Of these variables, employment at medium and maximum security institutions was influential with respect to involvement. These two variables are to some extent a reflection of the behaviors and risks evidenced by inmates. The variable "past total battery injuries" may also reflect prior high risk assignments, though the contribution of prior high risk CO behaviors cannot be ruled out. Lack of insight concerning the impact of officer behaviors on confrontational situations with inmates (i.e., as reflected by "CO aggravates an already agitated inmate" -- reason for CO battery injuries) contributes to the relevance of the latter interpretation of high risk CO behaviors.

4.5.2 ***Predictive Models of Injury***: As expected, CO injuries were related to assault and battery episode variables, such as the weapons used by inmates and officers. Injury outcome was also related to specific sociodemographic and Pre-Questionnaire variables of the officer cohort (involved and not involved). (Injury outcome was not related to the sociodemographic characteristics of only involved officers.) Stepwise multiple regression analysis was carried out for each of the three major data files -- master personnel, Pre-Questionnaire, and episode files. The master personnel and Pre-Questionnaire files include COs who were not involved in episodes, those who were involved but not injured, and those

who were involved and injured. Final stepwise multiple regression analyses were performed using two merged files. An officer cumulative experience for episode involvement file was merged with Pre-Questionnaire and master personnel files. This merged file best reflects the contribution of episode variables on the dependent variable, injury. However, only officers involved in episodes could be considered (File name = Merge 23). A second merged file (File name = Merge 1) was also created, consisting of the unique CO file for assault and battery episode data, the Pre-Questionnaire file, and the master personnel file. The entire officer cohort is considered in the regression analysis of Pre-Questionnaire and master personnel variables by injury outcome. The impact of attitudinal, behavioral, and sociodemographic variables is best evaluated in the Merge 1 file. (Because there was listwise deletion of missing cases, all COs entered on the master personnel and Pre-Questionnaire Merge 1 file who were **not involved** in episodes were excluded with the entry of episode data in the regression equation.)

Inmate variables are weighted in the Merge 1 file by the frequency of an inmate's episode involvements and, to some extent, by the number of COs required to control an inmate. For example, if an inmate participated in three episodes, the variables that characterized him and were stable across the three episodes (i.e., race, sex, sentence length) were weighted by a factor of three. Furthermore, if two inmates were involved in the same episode, and four COs were actively involved in the conflict, each of the inmate's variables would be included in the data set twice -- each appearing on coding sheets for two COs. Data describing the more violent and repetitive offender was weighted, in some respects an appropriate method. However, a more accurate description of the

unique contribution of each involved inmate was included in the earlier section describing inmate sociodemographic and episode data.

4.5.2.1 Sociodemographic Model of Injury: Table 4.51 displays the results of the stepwise multiple regression analysis of independent sociodemographic variables by the dependent variable, injury, using the unique Merge 1 file.

4.5.2.2 Pre-Questionnaire Model of Injury: Table 4.52 presents the predictive model of Pre-Questionnaire variables by injury outcome, again using stepwise multiple regression analysis based on the Merge 1 file.

4.5.2.3 Sociodemographic and Pre-Questionnaire Model of Injury: Sociodemographic and Pre-Questionnaire variables predict only a small proportion of the dependent variable variance -- 5% and 4%, respectively. The inclusion of both sets of variables simultaneously produces improved prediction (9%), though the overall strength of this model is weak. Table 4.53 summarizes the results of this latter multiple regression analysis.

One interesting finding is the variance explained by the classification, rural institution. With the inclusion of this variable, race drops from the equation. Note that the Hagerstown facilities, that is the rural institutions, were almost exclusively staffed by white COs. A second variable also drops from the predictive model -- the negatively related response to "Why are COs injured?" -- COs aggravate an already agitated inmate. The variations in the model may reflect CO to inmate interaction and communication difficulties that relate to injury outcome at the Hagerstown facilities.

4.5.2.4 Episode Variables Model of Injury: As noted earlier, there were numerous bivariate relationships between the assault and battery

Table 4.51

Stepwise Multiple Regression Analysis of Correctional Officer Sociodemographic Variables by Injury Outcome
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	β	SE β	BETA	T	SIG T
Rural Institution [1]	.09191	.01627	.14052	5.647	.0000
Rank (CO II - V)	.08415	.01465	.12067	5.742	.0000
Age (Youth)	-3.78796E-03	6.6282E-04	-.11982	-5.715	.0000
Sex (Male)	.07051	.02151	.07229	3.278	.0011
Urban Institution [2]	.04316	.01628	.06383	2.651	.0081
(Constant)	.07304	.03078		2.373	.0177

Variables NOT in the Equation = Race, Months of Employment Squared

1 Rural vs. Other Institutions = MCIH, MCTC vs. others (excluding BBCF/PRS).

2 Urban vs. Other Institutions = MDP, MRDCC vs. others (excluding BBCF/PRS).

Note: When the Rural/Suburban/Urban Classification of Institutions is replaced by the Security Classification, the variable "race" enters the equation. However, the Adjusted R Square = .04404.

Note: Based on the merged, unique officer file.

Multiple R = .21950
R Square = .04818
Adjusted R Square = .04603
Standard Error = .30304

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	5	10.27337	2.05467
Residual	2210	202.95000	.09183

F = 22.37414; Significant F = .0000

Pin = .050 limits reached

Table 4.52

Stepwise Multiple Regression Analysis of Correctional Officer Attitudinal/Behavior Variables (Pre-Questionnaire) by Injury (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	**β**	**SE β**	**BETA**	**T**	**SIG T**
No Injuries in Last Year	.04730	9.3788E-03	.14738	5.043	.0000
Importance of Assault Problem?	.03447	.01111	-.09086	-3.104	.0020
Why COs Injured? COs Aggravate Inmate	-.06460	.02291	-.08226	-2.819	.0049
(Constant)	.17238	.02142		8.047	.0000

Variables NOT in the Equation = Assaults Preventable?; Why COs Injured? - Surprise; Why COs Injured ? - Don't Wait for Help (Negative); Coping - Talk with a Friend (Negative); Coping - Have a Drink; History of Physical Assaults in Last 30 Days; Self-defense Training; and Height.

Note: Based on merged, unique officer file.

Multiple R = .20461

R Square = .04186

Adjusted R Square = .03933

Standard Error = .31593

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	3	4.94988	1.64996
Residual	1135	113.28541	.09981

F = 16.53087; Significant F = .0000

Table 4.53

Stepwise Multiple Regression Analysis of Correctional Officer Sociodemographic and Attitudinal/Behavior Variables by Injury (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	**β**	**SE β**	**BETA**	**T**	**SIG T**
Rural Institution	.15605	.02366	.21437	6.596	.0000
No Injuries in Last Year	.06404	.01249	.16643	5.126	.0000
Age (Youth)	-4.69799E-03	1.2225E-03	-.12506	-3.843	.0001
Importance of Assault Problem	.04154	.01424	-.09482	-2.918	.0036
(Constant)	.29808	.04983		5.982	.0000

Variables NOT in the Equation = Assaults Preventable?; Why COs Injured? - COs Aggravate Inmate (Negative); Why COs Injured? - Surprise; Why COs Injured ? - Don't Wait for Help (Negative); Coping - Talk with a Friend (Negative); Coping - Have a Drink; History of Physical Assaults in Last 30 Days; Self-defense Training; Height; Race; Sex; Rank (CO II - V) Urban Institution; and Length of Employment (Month Squared).

Note: Based on merged, unique officer file.

Multiple R = .31395
R Square = .09856
Adjusted R Square = .09439
Standard Error = .33762

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	4	10.75585	2.68896
Residual	863	98.36858	.11398

F = 23.59060; Significant F = .0000

episode variables and the occurrence of officer injury for the officer cohort. The variables that were excluded from the multivariate analysis were those factors that were alternative classifications of the independent variable. For example, episode category reflected the injury outcome, as well as the direction or valence of the event. Inclusion in the regression analysis of the episode category variable would have been inappropriate. Other factors were excluded from the final predictive model because they failed to contribute significantly.

The cumulative CO file (Merge 23) was used as the data source for the regression analysis of episode variables. Officer variables that might vary from officer to officer involved in the same episode and from episode to episode for the same CO were accurately accounted for using this file. CO weapons and methods of control are examples of factors best represented by the cumulative CO file. In contrast, factors that remained stable within an episode, such as time and inmate census, were weighted according to the number of COs involved in that particular episode. Since the principal focus of the study was the CO, this form of weighting is not inappropriate. For instance, that time of day found to be a high risk period for assault and battery episodes involving several COs versus one or two COs should be weighted when one considers the potential and actual impact on officers.

Inmate variables in the cumulative officer file were also weighted according to the number of COs required to control a given inmate. As noted before, this weighting is appropriate given the focus of the study. For a precise accounting of inmate factors, refer to the findings reported earlier and based on the unique and cumulative inmate files.

Table 4.54 presents the best predictive model of episode variables

by injury outcome using stepwise multiple regression analysis. Variables that were selected in the final equation were initial site of the event, inmate's housing type, time of day, prison census, initial event, valence or direction of the event, CO weapon, inmate weapon, primary method of control, substance abuse and number of inmates injured. Excluded from consideration or not selected in the regression analysis were primary site, date, day of the week, event outcome, secondary method of control, number of inmates, number of COs, number of others injured, title of others involved, CO primary/secondary participation, inmate race, inmate sex, inmate age, inmate role, inmate security classification, LDS score, sentence length, sentence remaining, disciplinary action, and episode category. The model explains 40% of injury variance.

4.5.2.4.1 ***Weapon*** - MACE and physical restraint by four or more officers were two primary methods of control that were negatively related to officer injury (i.e., less frequently did an injury take place). The infirmary, reception/holding areas and general hall and command areas were initial episode sites that were also negatively related to CO injury. Eight to ten o'clock in the morning was a time period that was unrelated to officer injury. A final negative relationship was found for dormitories (inmate housing) and CO injury. All other variables in the regression equation presented in Table 4.54 were positively associated with CO injury.

Both CO and inmate weapons significantly contributed to CO injuries, with multiple body parts (eg., fists, arms, feet, teeth, torso) of inmates and officers the most influential variables. Other weapons that were influential were multiple weapons and body parts (COs and inmates),

Table 4.54

Results of Stepwise Multiple Regression of Assault and Battery Episode Variables on Correctional Officer Injury (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	**β**	**SE β**	**BETA**	**T**	**SIG T**
Inmate Weapon - Multiple Body Parts	.26712	.03264	.28934	8.185	.0000
CO Weapon - Multiple Body Parts	.39754	.03623	.33823	10.972	.0000
CO Weapon - Multiple Weapons/Body Parts	.28041	.03190	.25637	8.790	.0000
Inmate Census	1.11264E-04	2.3966E-05	.12937	4.643	.0000
Principal Method of Control - MACE	-.40363	.07096	-.15860	-5.688	.0000
Number of Inmates Injured	.09549	.01584	.20640	6.027	.0000
Time - 8 a.m. to 10 a.m.	-.10523	.03234	-.09505	-3.254	.0012
Substance Abuse - Alcohol/Drugs	.48861	.12004	.11594	4.071	.0001
Initial Event - Attempted Battery	.08756	.04110	.05969	2.130	.0334
Inmate Housing - Dormitory	-.09368	.03539	-.07559	-2.647	.0083
Valence - Inmate(s) to Officer	.12571	.02997	.12587	4.195	.0000
Time - 2 p.m. to 4 p.m.	.14284	.03972	.09785	3.596	.0003
Valence - Inmate to Officers/Others	.11315	.03192	.10674	3.545	.0004
Principal Method of Control - Physical Restraint 4+ COs	-.06349	.03308	-.05969	-1.919	.0553
Initial Site - General Hall/Command Area	.17282	.05906	-.07962	-2.926	.0035
Time - 4 p.m. to 6 p.m.	.10548	.04202	.06827	2.510	.0122
Inmate Weapon - Other	.18637	.05223	.10100	3.568	.0004
Inmate Weapon - Upper Torso	.14985	.04582	.09078	3.271	.0011
Inmate Weapon - Multiple Weapons/Body Parts	.13282	.04542	.08876	2.925	.0035
Initial Site - Infirmary	-.15687	.06951	-.06269	-2.257	.0243
Initial Site - Reception/Holding Area	-.22265	.10247	-.05781	-2.173	.0301
(Constant)	-.27095	.04758		-5.694	.0000

Note: "Secondary method of control" was excluded from analysis. This variable tended to be unsuccessful or the least successful method in controlling inmates. Deletion improved the adjusted R Square value. "Inmate AIS" Injury score was also excluded because of a strong relationship to "number of inmates injured".

Multiple R = .64268

R Square = .41304

Adjusted R Square = .39871

Standard Error = .34619

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	21	72.53051	3.45383
Residual	860	103.07040	.11985

F = 28.81814; Significant F = .0000

Pin = .050 limits reached

upper torso (inmate) and "other" inmate weapons. Officer weapons may have been related to officer injuries because they reflect, in part, the nature and seriousness of the conflict. Certain CO weapons may also involve greater risk of injury to the officer. Grappling and wrestling maneuvers, behaviors involved in the use of "multiple body parts", may be less effective as a defensive action than other weapons, such as MACE.

4.5.2.4.2 Inmate Census: Injuries are more likely to occur in institutions with higher inmate census. In Maryland, maximum and medium security institutions have greater numbers of inmates and have experienced most of the overcrowding, as compared to minimum and pre-release security facilities. As noted earlier, medium, and to a slightly less extent, maximum security institutions were related to an increased risk of CO involvement in episodes.

4.5.2.4.3 Time of Day: The two periods of time related to injury outcome, 2 p.m. to 4 p.m. and 4 p.m. to 6 p.m., are those times just prior to or following shift change and inmate lock-in and count. These periods are also associated with unstructured inmate activities and movement of inmates back to their housing areas. Other times not appearing in the model may also be related to injury outcome. However, if applicable, these other time periods may covary with other factors that do appear in the model.

4.5.2.4.4 Number of Inmate Injuries: The relationship of the number of inmates injured to CO injury may reflect the overall seriousness of the conflict. One cannot overlook the possibility that an increase in use of force by COs may follow an officer injury, thereby

increasing the likelihood of an inmate injury as well. No attempt was made to classify the order of injuries. Furthermore, this information was frequently not available.

4.5.2.4.5 Valence: Inmate directed conflict towards officer and/or others versus another inmate was related to subsequent CO injuries. In other words, officers were not as likely to be injured while "breaking up" inmate conflict as when they or another staff member were the original object of the aggression.

4.5.2.4.6 Housing: Inmate housing and initial site of the event were not positively related to injury in the regression equation. Bivariate analysis demonstrated the importance of segregation housing areas as sites for episode occurrence and as housing for many inmate participants. Perhaps segregation sites and housing did not load in the equation because other variables accounted for the variance in injury occurrence that would otherwise have been explained. For example, multiple body parts and/or multiple weapons of both COs and inmates may have been used predominantly in segregation areas. Note, also, that inmate housing and initial site may not have been as strongly related to injury outcome as other variables.

4.5.2.5 Sociodemographic, Pre-Questionnaire, and Episode VariablesModel of Injury: Table 4.55 depicts the results of the stepwise multiple regression analysis of all variables relevant to the injury outcome -- Pre-Questionnaire and episode variables. Because of listwise deletion of missing cases, only COs involved in episodes are included in this analysis. Sociodemographic data has not been included because there

Table 4.55

Stepwise Multiple Regression Analysis of Pre-Questionnaire and Episode Variables for the Dependent Variable, CO Injury (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

	Variables in the Equation				
Variable	β	SE β	BETA	T	SIG T
Inmate Weapon - Multiple Body Parts	.23557	.03937	.25729	5.983	.0000
CO Weapon - Multiple Body Parts	.41863	.04387	.36650	9.542	.0000
CO Weapon - Multiple Weapons/Body Parts	.31390	.04034	.28188	7.782	.0000
Principal Method of Control - MACE	-.48933	.08026	-.20911	-6.097	.0000
Initial Event - Attempted Battery/Throwing Object	.14001	.05333	.09253	2.625	.0089
Inmate AIS Injury	.13722	.02716	.18607	5.052	.0000
Time - 08:01 to 10:00	-.06846	.03750	-.06584	-1.826	.0685
Inmate Weapon - Fist	-.10823	.04207	-.10186	-2.573	.0104
Initial Site - Reception/Holding Area	-.42250	.13998	-.10028	-3.018	.0027
Initial Site - General Hall/Command Area	-.23597	.06847	-.11634	-3.446	.0006
Initial Event - Disobey Orders	.09748	.04684	.07210	2.081	.0379
Census (Mean 1543)	8.82024E-05	3.1712E-05	.09833	2.781	.0056
Inmate Weapon - Other	.14068	.06457	.07935	2.179	.0298
Time - 04:01 to 06:00	.22970	.08971	.08544	2.560	.0107
Time - 14:01 to 16:00	.13415	.05251	.08788	2.555	.0109
Time - 16:01 to 18:00	.11862	.05447	.07485	2.178	.0299
(Constant)	-.16821	.05934		-2.835	.0048

Note: Of variables that had significant bivariate relationships with CO injury, but did not exhibit multicolinearity difficulties, two were excluded from analysis: secondary method of control and number of inmates. Note, also, that there were no Pre-Questionnaire variables that appeared in the equation.

Multiple R = .68119

R Square = .46402

Adjusted R Square = .44690

Standard Error = .33561

Analysis of Variance

	D.F.	Sum of Squares	Mean Square
Regression	16	48.85360	3.05335
Residual	501	56.43019	.11264

F = 27.10833; Significant F = .0000

N = 518 *

* Listwise deletion of missing cases

were no significant bivariate relationships between these variables and injury in the cumulative involved CO file.

In the analysis summarized in Table 4.55, inclusion of the variable "inmate AIS" injury score and deletion of the variables "secondary method of control" and "number of inmates" improved the predictive capabilities of the equation as compared to findings in Table 4.54 -- adjusted R squares of 45% versus 40%. (The deleted variables did not contribute to the predictive ability of the model.) The earlier model included 21 variables in the equation, all of which precede a CO injury. The Table 4.55 equation included an inmate "outcome" variable, inmate injury, along with 15 other variables. Both models contribute to an understanding of risk factors related to CO injury.

Clearly, the variables specific to battery episodes demonstrated the greatest influence on injury outcome (45% of injury variance). Weapons, principal methods of control, site, and time of day were particularly influential. These factors, in turn, can be related to staffing patterns, prison activities, inmate movement, officer procedures and practices, officer training, and other aspects.

The following chapter will summarize and discuss study results, discuss limitations, and present conclusions. A discussion of the central study hypothesis will be included, within the context of the theoretical models presented in Chapter 2. Implications for future research will conclude the discussion.

Chapter 5

Summary, Limitations, and Conclusions

Study findings presented in the preceding chapter included the relationships of officer, inmate and situational variables to the two dependent variables — officer battery episode (with and without assault) involvement and injury as a result of involvement. This chapter begins with a summary and discussion of study findings, with specific application of the results to the research hypothesis. A discussion of study limitations follows. The final section presents conclusions, including possibilities for intervention controls. Implications for future research are also noted.

5.1 Discussion and Summary of Findings

5.1.1 Purpose: The purpose of this research was to determine the incident rates for correctional officer involvement with, and injury from, battery or assault and battery by inmates. A central hypothesis, based on sociological theories of violence and the injury control model, postulated predictive equations for the dependent variables, involvement and injury, by independent, participant (officer and inmate) and situational variables. To determine incident rates and test the hypothesis, a prospective study was carried out. Variables relevant to the study problem and reflecting the attitudes, beliefs, behavioral intentions, and history related to corrections and interaction with inmates, and sociodemographic characteristics of COs, were explored for the cohort of officers employed by Maryland's Division of Correction (DOC). Subsequent assault and battery experience during a six month period was examined. Additional

officer variables, along with situational and inmate factors, were extracted from the official reports of the episodes and the involved inmates' files. To determine if the study hypothesis was supported, stepwise multiple regression analysis for the dependent variables was performed. Final variable inclusion in the regression analysis was based on bivariate and covariate relationships as well as theoretical.

Given the complexity of the study, comments concerning file organization and utilization are relevant to the study's findings and conclusions. The creation of multiple files to reflect various "levels" of examining the data was necessary. Unique files refer to a single representation of an individual's characteristics, responses, or experiences. For example, the unique officer file for battery episode data would randomly include data from one episode involvement for that officer. If the officer was involved in more than one episode, data that might change from episode to episode would not be included. However, the unique file was the most appropriate data source for variables that remained stable across all episode involvements (race, sex, institution).

Cumulative files contained data from each episode involvement. This data source was most appropriate for variables that changed with each episode, such as "weapon" and "method of control". However, stable variables, such as race, would be weighted by the number of episode involvements.

File structures also permited two levels of analysis for injury outcome. Data relevant to all correctional officers (Pre-Questionnaire and sociodemographic characteristics) or data specific to only those COs involved in episodes (Pre-Questionnaire, sociodemographic and episode variables) were examined in relation to injury occurrence. Each level of

analysis afforded different insights.

The importance of violence directed at officers as an occupational health problem had been supported by experts and professionals in the field (Toch, 1969; Lombardo, 1981; Megargee, 1977b; Wolfgang and Ferracuti, 1967; Dietz and Rada, 1982). However, documentation of the risk of injury (as reflected by involvement in battery and assault and battery episodes) and morbidity had not been published, with the exception of the work by Dietz and Rada (1981, 1982, 1983). The latter work reflected an incidence of battery six times higher for COs than patients/inmates in a hospital for the criminally insane, given the same number of hours spent in the facility.

5.1.2 Officer Incidence Rates: Officer incidence rates reported in this study clearly support the importance of the problem of violence for officers working in Maryland's Division of Correction. With 65.3 COs involved in battery confrontations with inmates per 100,000 work hours spent in prison, officers were more likely to be involved in and at risk of injury than inmates (i.e., as a result of involvement in these same episodes and controlling for time spent in prison).

Officers had an incidence rate of 16.8 injuries per 100,000 work hours as compared to an inmate rate of 0.3 per 100,000 hours spent in prison. However, once involved in assault and battery episodes with COs, inmates were more likely to be injured, with a case morbidity ratio of 1 to 2.5 versus the COs' ratio of 1 to 4. Some inmate injuries may have preceded the officer's involvement in the episode. Note, also, that battery injuries to inmates as a consequence of inmate to inmate conflict not physically involving COs were not considered in this investigation.

A majority of CO injuries were relatively minor, as reflected by Abbreviated Injury Scale (AIS) scoring. Minor injuries would include lacerations, contusions, abrasions, sprains, and bite wounds. The relative seriousness of injuries was limited by the predominant use of bodies as weapons versus the use of more lethal weapons. For example, guns were only used on three occasions during the study. However, the use of "multiple body parts", as in wrestling/punching encounters, was more likely to produce injury, though minor, than any other weapon. This characteristic was true for the use of "multiple body parts" by both inmates and COs.

The importance of the rapid assistance by other officers is also important and is supported by the negative relationships of "principal method of control -- physical restraint by four or more COs" and "initial site of event -- command area, general hall, reception and holding areas". These latter sites had several COs posted in close proximity, decreasing response time and increasing the number of respondents rapidly.

AIS scoring of inmate injuries reflected a higher proportion of moderate and serious injuries (i.e., scored as 2 or 3) as compared to COs. Explanations for these differences include that a proportion of inmate injuries occurred prior to CO involvement. Potentially lethal, exogenous weapons, such as "shanks", were used at times. Second, greater numbers of COs, as compared to inmates, were usually involved per episode. This seemed to afford some protection for COs while increasing the risk of inmate injury. Finally, if a CO was injured by an inmate, fellow officers may have used increased force to control the inmate, thus increasing the likelihood and seriousness of inmate injury. (Data was not available to confirm or deny this explanation.)

Summarizing, officers were more likely to be involved and injured in battery episodes than inmates per 100,000 hours of prison exposure. However, inmates were more likely to be injured, and injured more seriously as a consequence of battering COs, than COs participating in the same conflicts.

5.1.3 Pre-Questionnaire Variables and Involvement: Relatively few "general" behavioral responses to the officer role were predictive of later CO involvement in battery encounters with inmates. Officer job satisfaction and perceptions of role clarity and power had no relationship to subsequent involvement and injury. Those behaviors related were coping responses to work-related anger, anxiety, and unhappiness. They tended to reflect a pattern of coping that was less positive and adaptive for those COs most likely to subsequentially be involved in conflict with inmates.

The other variables that were related to involvement were more specific to the study problem. For example, responses to inmate verbal abuse and inmate fighting were related to subsequent involvement. Again, CO responses viewed as more positive, mature, introspective, and reflecting a sense of control were not as likely to be cited by individuals later involved. The COs who felt officer battery injuries occurred as a consequence of officers aggravating inmates who were already agitated were less likely to be battered. These findings support the position of researchers (Goffman, 1967; Toch, 1969; LeJaune and Alex, 1973; Hudson, 1970) that tie the behaviors of both "victim" and "aggressor" to the evolution of violence. As with community-based studies, the officer who participates in a character contest and attempts to save face, especially

with the exchange of abrasive language, seems to be more likely to be involved (Toch, 1969).

Past history of battery injuries and height were also related to subsequent involvement. Both of these variables may be a reflection of high risk duty assignments that continued through the study period. Past history of battery injuries may also be related to CO behaviors that were not useful in controlling altercations without subsequent battery and/or injury. Height may also be related to involvement because of socialization influences encouraging large males to use a physical approach in conflicts. The optimal predictive model of attitudinal/behavioral/physiological variables for correctional officer involvement, in the order of decreasing importance was: history of past battery injuries; height; "deal harshly with inmates" - coping; "COs aggravate agitated inmate" - why COs injured (negative relationship); "try change system" - coping; and "work out feelings through sports/labor" - coping. This model accounted for only 4% of the variance.

5.1.4 ***Sociodemographic Variables and Involvement:*** Officer sociodemographic variables contributed to the prediction of subsequent involvement. In decreasing order of their contribution, the optimal combination achieved through stepwise multiple regression analysis included rank (CO II - V), age (youth), sex (male), medium security institution, maximum security institution, and race (white). The variance explained with this combination is 10%. Several interesting points can be made about this equation. The importance of employment at a medium security institution as compared to a maximum security institution

reflects the questionable predictive utility of the DOC security classification regarding the relative dangerousness of inmates to staff in these facilities. Youth, whether it characterized officers or offenders, is a risk factor for violent behavior. The increased likelihood of white as compared to black CO involvement may reflect ethnic differences that potentiate the occurrence of violent encounters. When institutions coded by security classification are replaced in the analysis by institutions coded by location (urban, rural, suburban), race drops out of the equation. Cultural factors, including value systems and interaction styles applicable to institution location, seem to account for a portion of the variance attributed to race. In other words, rural white COs may be at greatest odds with black, urban inmates. Differences existing between these two groups may contribute to the increased risk experienced by white COs, especially from rural settings.

5.1.5 Sociodemographic and Pre-Questionnaire Variables and Involvement: With the inclusion of both sociodemographic and Pre-Questionnaire variables in the stepwise multiple regression analysis for episode involvement, 12% of the variance was explained. Dropping out of the equation were the following variables: height; "deal harshly with inmates" - coping; "work out feelings through sports and labor" - coping; and race. This pattern would indicate at least some covariance between the non-loading variables noted above and the variables remaining in the equation. An observation at the Hagerstown facilities (rural site, medium security) would support this conclusion: these sites (especially MCIH) staff their "quick response teams" with tall, well-muscled white officers.

5.1.6 Sociodemographic Variables and Injury: The influence of

sociodemographic (master personnel file) variables on injury outcome was much less than on involvement, accounting for 5% of the variance. Age (youth), sex (male), and rank of COs (II - V) were related to injury outcome as they were to episode involvement. Employment at a rural prison and, to a lesser extent, at an urban prison were not related to injury outcome. Age and length of employment covary, with age contributing more to the predictive equation. When institution coded by location is replaced by institution coded by security classification, race (white) enters the equation. However, the resulting adjusted R square is slightly less (.044 versus .046).

5.1.7 ***Pre-Questionnaire Variables and Injury:*** The contribution of Pre-Questionnaire variables was also slight, accounting for 4% of the variance for the dependent variable, injury. The three variables entering the equation were: reported number of battery injuries in last year; "Importance of the assault problem?" (negative relationship); and "Why COs injured? - COs aggravate inmate" (negative relationship). One would expect fewer attitudinal/behavioral intention variables to contribute to the injury outcome as compared to episode involvement. Once an officer is involved in physical conflict, these factors seem to have had less influence. Again, past history of battery injuries may reflect continued high risk duty post assignments or continued high risk behaviors. Injured officers were slightly more likely to think the problem of assaults was not too serious. Does this indicate a lessened tendency to exercise caution during conflicts, and so potentiate the likelihood of injury? The negative relationship between the insight regarding CO injuries (i.e., COs aggravate agitated inmates) and injury outcome adds additional support

for the lack of caution and sensitivity by officers in some of the injury-producing encounters.

5.1.8 Sociodemographic and Pre-Questionnaire Variables and Injury: The final equation of sociodemographic and Pre-Questionnaire variables included rural institution, number of battery injuries in the last year, age (youth), and "Importance of the assault problem?" (negative relationship). Covariation between variables may explain why the variables noted earlier dropped out of the equation. The final equation accounted for 9% of the injury variance.

The predictive models described earlier have relevance for officer training and counselling. Note, however, that these variables account for a relatively small proportion of the dependent variables. Nevertheless, assisting COs to improve interaction skills with inmates and helping them to cope more effectively with cultural differences and negative emotions may help in the pre-event phase to defuse some of the altercations with inmates that lead to assault, battery, and injury. This kind of counselling may be especially important for young officers and for those COs from rural environments.

5.1.9 Episode Variables and Injury: The variables specific to the battery encounter were much stronger predictors of injury occurrence. Some of these factors are relevant to the pre-event phase of the episode. For example, inmate census reflects the size and the population growth of Maryland prisons, an environmental condition that was found to be positively related to injury occurrence. The larger institutions experienced increased risk of injury.

The use of alcohol and mind-altering substances by inmates, though

infrequently recorded, was a precursor for CO injuries. Similar relationships between alcohol and other injuries have been found in studies of community injuries, including those involving non-collective violence (Baker, O'Neill, Karpf, 1984).

Attempted battery (versus other behaviors, such as inflammatory talk and stealing) was the inmate behavior that preceded injury-producing episodes and entered the predictive equation. Other initial inmate behaviors may have contributed to the occurrence of officer injuries, but if so, their contribution was accounted for by other variables in the equation.

Time of day was another factor that proved useful in a predictive sense. Mid to late afternoon (i.e., 2 p.m. to 4 p.m. and 4 p.m. to 6 p.m.) were high risk periods for injury, while midmorning (8 a.m. to 10 a.m.) was a low risk period. The high risk periods were characterized by change of shift for officers, inmates returning from work assignments and school, the inmate dinner hour, and unstructured inmate time. Inmate mass movement brought inmates into contact with other inmates with whom they were not normally housed. Resolving grudges and exchanging contraband may have been more prevalent during these periods. The low risk period followed staff change of shift and was a structured time for a large proportion of inmates (i.e., at work assignments and school). Re-examination of staffing and procedures relevant to inmate activity and movement is indicated.

Weapons, both inmates' and officers', were extremely important to injury occurrence. Weapons were viewed as variables relevant to the event phase of the Injury Control Model. As noted earlier, the use of multiple body parts by either inmate or CO was found to be an important

risk factor for CO injury. Multiple weapons (clubs, shanks, etc.) and multiple body parts together of both COs and inmates were also related to CO injury. In contrast, other inmate weapons, such as fist, upper torso, club/mop, shank/ knife, and food/fluid, as a single weapon, did not contribute to the regression equation for injury. Neither did the CO weapon of fist, upper torso, handcuffs, and other (i.e., gun, baton, MACE). The entry of specific weapons in the equation does not mean that other weapons were not found to cause injury. Rather, the entered weapons reflect those with highest risk for injury, controlling for other variables that may covary with certain weapons. This pattern may also indicate that grappling and wrestling with inmates is not the best way to respond to assault and battery, if CO injuries are to be minimized. Furthermore, the control of exogenous weapons, such as shanks, becomes more difficult in these situations (i.e., as demonstrated by the relationship of injury to multiple body parts and other exogenous weapons).

With the strong relationship of inmate housing to episode and injury occurrence, it was expected that housing, specifically segregation cells, would enter the equation. Only dormitories were selected in the final model and this variable was negatively related to injury. Given the strong bivariate relationship noted above, segregation housing probably did not load on the equation because this variable covaried with other variable(s) that did enter the equation. "Multiple body parts" and "multiple body parts and other weapons" were weapons that may have been used most frequently with segregation inmates. The overall direction of the encounter, "inmate(s) to officer" or "inmate to officers/others" (i.e., these variables entered equation) versus "inmate to

inmate" or "other", may have reflected the valence trend of segregation inmates. Inmate to inmate fights that eventually involved the use of force by officers to control physically combative inmates were not predictive of officer injury.

Two principal methods of control, MACE and physical restraint by four or more COs, were related to less frequent injury. The latter method dropped from the final equation that included Pre-Questionnaire data and the inmates' AIS injury score. It would seem that a show of force and the use of MACE as a basic control method are effective in reducing injuries to COs.

The final stepwise multiple regression analysis considered Pre-Questionnaire and episode data (i.e., in the cumulative CO file, there was no significant bivariate relationship with CO sociodemographic variables). Only episode variables entered the equation, accounting for 45% of injury occurrence. There were no post-event phase variables considered germane to injury occurrence. Disobeying orders entered as a predisposing inmate behavior. Note a similar finding in Toch's (1969) work of assaults on police officers. An additional time period entered the equation -- 4 a.m. to 6 a.m. This period includes inmate interaction as they dress for the day and move in mass to breakfast. An inmate weapon, fist/hand, also appeared, with a negative relationship to injury. The AIS inmate injury score also was important, with a positive relationship to CO injury. Valence, substance abuse, housing (dormitory -- negative relationship), and site of the event (dormitory -- negative relationship) were less important and dropped out of the equation.

To summarize, injury-producing episodes were more likely to occur in large institutions during the hours of 4 a.m. to 6 a.m. and 2 p.m. to 6

p.m. These incidents were least likely to occur between 8 a.m. and 10 a.m. in the reception/holding and general hall/command areas. They were often preceded by inmates disobeying orders and attempting battery, including throwing objects. Inmate weapons associated with CO injury were "multiple body parts" and "other" (food tray, furniture, glass). Inmates' use of fists/hands were negatively related to CO injury. CO weapons associated with injury were "multiple body parts" and "multiple body parts and multiple (other) weapons". MACE, as a principal control method, decreased the risk of CO injury. Inmate injuries, as reflected by AIS scores, were positively related to CO injury occurrence. Bivariate relationships also indicated that segregation housing areas were high risk sites. Finally, once episodes were in progress, pre-existing attitudes and behavioral intentions did not seem to have had a strong influence on CO injury occurrence. This was also true of inmate and CO sociodemographic characteristics. The final regression model accounted for 45% of the injury variance, was statistically significant, strongly supporting the study hypothesis.

5.2 Limitations of the Study: There were several limitations to the study, though none was felt to seriously compromise the study's value. The descriptions of officer injuries recorded in DOC records were frequently sketchy. Some injuries may have been more serious than what was coded. It is also possible that a few CO injuries went unreported, especially contusions, muscle strains, and other musculoskeletal disorders that might have become obvious several hours after the altercation. The officer injury rate may be slightly biased downwards due to these factors. There was no indication based on record review and interviews that

injuries were over-reported. There were no verbal reports of specific CO injuries that were not reported.

In most institutions, there was no indication that assault and battery of COs was either over- or under-reported. This question was asked of administrators, line officers, and classification counselors in every institution. An exception might be the Maryland House of Correction, with a few officers stating that some supervisors and prison administrators discouraged reporting altercations. These officers felt this tendency was more likely for conflicts that did not result in officer injury. When asked what percentage of incidents went unreported, these officers stated 10 to 20%. Administrators denied this practice, stating if any physical conflict was observed, whether or not officers were involved or injured, it was reported. MHC and DOC administrators attribute the lower MHC incident rate to fewer inmate to inmate fights. Study findings support that with respect to other institutions and other forms of assault and battery altercations, there were fewer MHC study episodes that began as inmate to inmate conflict. As noted before, MHC was the only DOC prison without double cells and their inmate population was older overall than any other prison in the system. These factors were felt to decrease the incidence of inmate to inmate conflict, including incidents that might later physically involve COs.

Two items on the Pre-Questionnaire asked officers about the number of physical assaults on their person in the preceding 30 days and the number of physical assaults during that period that went unreported. COs reported 140 incidents and stated that 28.5% (40) went unreported. Note, however, that the researcher identified confusion among some respondents concerning the second question (i.e., several respondents

recorded how many incidents they had reported rather than the number not reported). Also, some officers indicated they were not absolutely sure how many incidents had occurred during that time. Because of this confusion, responses to the "not reported" question are unreliable.

It would seem, based on discussions with officers and administrators, that involvement incident rates were basically accurate and, if anything, erred on the side of under-reporting. If incidents were not recorded, they were likely not to have produced a CO injury and were viewed as less serious than other study episodes.

A third study limitation was related to the verification of episode events, including the initial direction of the conflict and the methods of control employed. There was no practical way to verify the accuracy of DOC records. However, written reports by different COs of the same episode were almost always essentially the same. Informal interviews of several (about 40) involved officers within two months of the altercation verified the basic accuracy of the reports, thus supporting record reliability and validity. Lack of detail in some reports was the major limitation. For example, when officers grabbed or wrestled with inmates, using hands, upper torso or multiple body parts, the standard phrase "only that force which was necessary was used" was written. This offered little insight about the specific tactics that were used, such as holds and other strategies of restraint. Fortunately, officer and inmate weapons were always specified, including xerox images of inmate weapons such as shanks.

One other feature that at times was unclear related to the events that preceded the conflict. This was more likely for episodes that began as inmate fights. However, it was also true occasionally of situations

that involved COs from the time of the episode's inception. Some COs recorded the inmate's derogatory language or verbal refusal to obey commands. Other COs noted a physical action on the inmate's part as the opening behavior in an altercation. It is quite possible the episode began without verbal abuse or inflammatory comments, but again there is no way to directly verify this aspect. There is also no way to document through observation the CO's verbal exchange with the inmate. Given the responses on the Pre-Questionnaire to the item dealing with "response to inmate's verbal abuse", officers at times responded with inflammatory comments of their own.

Because officers' duty assignments were potentially major risk factors for involvement, it was unfortunate that this information was not included in the analysis of officer cohort data. Information about the site of the altercation provided some insight into high risk areas, but without the benefit of comparison data for the entire officer cohort or a representative control group. Future research plans include the incorporation of duty assignment data.

Also lacking for comparison purposes was security classification, LDS scores, and housing information for the cohort or a control group of DOC inmates. Means for inmate age, race, sex, and sentence length (excluding life or greater sentences) were available for the entire Division and by institution. As noted in Chapter 4, this data was compared to involved inmate data. With the study's focus being the correctional officer, lack of some inmate cohort data was not a serious flaw. In the context of the Injury Control Model, inmate characteristics are risk factors that, for the most part, are not likely to be modified in an attempt to reduce injuries.

Because not all DOC officers completed a Pre-Questionnaire, information about a portion of the study cohort was missing. There were some minor, but statistically significant, differences between questionnaire respondents and non-respondents. Table 5.1 summarizes those differences.

Table 5.1

Significant Sociodemographic Differences Between Cohort Officers Completing and Not Completing the Pre-Questionnaire (Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variables	% COs Completing Questionnaire (#)	N	Chi-Square	D.F.	P Value	Gamma
Sex		2615	5.64846	1	0.0175	-0.1493
Male	47.6 (1208)					
Female	40.3 (124)					
Race		2615	21.81059	1	0.0000	-0.18340
White	51.1 (704)					
Black	41.9 (519)					
Institution		2688	50.98227	7	0.0000	0.10766
MHC	44.0 (201)					
MCIJ	55.2 (138)					
MCIW	37.3 (41)					
MDP	42.5 (189)					
MRDCC	38.7 (99)					
MCTC	52.0 (221)					
MCIH	58.2 (196)					
BBCF/PRS	54.7 (223)					
Rank		2615	169.62224	7	0.0	0.26007
CO I	25.0 (128)					
CO II	51.7 (766)					
CO III	58.8 (150)					
CO IV	66.2 (86)					
CO V	53.8 (35)					
CO VI	63.0 (17)					
CDO	30.6 (30)					
CMO	23.9 (11)					

Age Means between those COs completing and not completing the Pre-Questionnaire were not significantly different.

The sociodemographic differences between those COs completing and not completing the Pre-Questionnaire influenced the distribution of question responses. For instance, since fewer whites, as compared to blacks, chose the answer "COs aggravate already agitated inmates" as the reason COs are injured, and a greater percentage of whites completed the questionnaire, probably fewer COs responded positively to that choice than might have occurred if COs by race had reflected the cohort distribution. However, these differences should not affect the correlations between independent and dependent variables.

Missing data was also a problem for inmate variables. There were 77 missing cases (10.3%) for housing, 80 missing cases (13.2%) for age, 88 missing cases (14.5%) for LDS score, and 87 missing cases (14.3%) for race. The number of missing cases for other inmate variables was much fewer. Reasons for missing data included missing inmate base files and incomplete base files. There was no indication that the distribution of inmate variables differed for missing cases, as compared to known cases. However, it is possible that missing data might have influenced the distribution of inmate sociodemographic variables slightly.

5.3 ***Conclusions***: The sociological theory of non-collective violence, with its emphasis on factors characterizing all participants along with the situation and environment, has been supported by this study. Risk factor models predictive of officer battery, with and without assault, and of subsequent injury have been determined. Incident rates for CO involvement and injury, including case morbidity ratios, have also been documented. The importance of violent confrontations between COs and inmates, as an occupational health problem for officers, has

been validated.

There are multiple implications for Maryland's Division of Correction as a result of study findings. Three broad "implication" categories seem relevant -- officer training and counselling, management strategies, and environmental design. Mobilizing resources and administrative support are necessary to operationalize the preventive strategies relevant to each category.

5.3.1 ***Training and Counseling Implications:*** Though there was some senior officer confusion about how to answer the "Basic Training Academy" item on the Pre-Questionnaire, the training questions, as an aggregate, indicate officer training does not reduce episode involvement, nor injury occurrence. In fact, additional self-defense training is related to an increased likelihood of injury, perhaps through a self-selection process. Re-evaluation of all officer training is indicated. Consideration for curriculum inclusion based on study findings would be:

* development of communication and interaction skills specific to dealing with conflict and abuse and giving directions and order. Pre-Questionnaire responses would indicate that being sensitive to inmate concerns and emotions are helpful in defusing potential conflict. Role playing may be a useful learning approach. (Haddon's 3rd countermeasure.)

* increased awareness of ethnic and value system characteristics of the inmate population, primarily composed of black, inner city males. Training should include the exploration of methods to deal with negative feelings generated as a result of differences. (Haddon's 3rd countermeasures.)

* improved physical status and self-defense skills, with particular emphasis on techniques that are appropriate to close, unyielding quarters. These techniques may not yet be developed, in which case further research is indicated. In

perfecting self-defense skills, provisions for practice and updating skills need to be included. Attention to communication skills should not be minimized. (Haddon's 8th countermeasure.)

* identification by COs of risk factors for assault and battery involvement and subsequent injury and application of this knowledge. Appropriate application of this knowledge might be the use of MACE and/or a shield in high risk of injury situations, such as conflict involving exogenous inmate weapons. Waiting for reinforcements bringing these aids might be worthwhile and deserves further evaluation. (Haddon's 1st through 8th countermeasures.)

* development of effective responses to assault and battery situations, such as the use of MACE (as indicated before), show of force, the use of non-threatening or angry verbal communication, and the use of devices that separate the officer from the injurious agents (e.g., shields). The avoidance of wrestling with inmates also seems to be indicated and deserves further examination. Role playing through simulated incidents might be an effective training strategy. (Haddon's 3rd, 4th, and 6th countermeasures.)

* management of stress and development of effective, appropriate coping strategies. Especially relevant would be training and counselling sessions aimed at improving coping responses to work-related anger, unhappiness, and anxiety. The study implicated acting harshly towards inmates, drinking, trying to change the system, and sports and physical labor as associated with increased involvement in assault and battery conflict with inmates. Trying to change the system may be more frustrating than helpful. Those individuals that normally release feelings through sports and labor may have difficulties doing so at work. Gym facilities at work for COs may be helpful as an emotional outlet and as a means to maintaining fitness. Employee Assistance Programs (EAPs) may also be useful in addressing problems related to alcohol and drug abuse. The use of friends as a way of working through feelings was found to be negatively correlated with involvement. Training programs should emphasize this strategy.

5.3.2 ***Management Implications:*** Study findings implicate management strategies as a means of addressing the problem of assault, battery and injury of officers. Haddon suggested two countermeasures that may have relevance to the problem. Preventing the marshalling of potentially injurious agents would translate as regular and careful personal and institutional searches for weapons and mind-altering substances. Both alcohol ingestion and cleaning fluid inhalation were linked to injury-producing incidents. Exogenous weapons along with multiple body parts were also found to be associated with officer injury. Institutional searches ("shakedowns"), however, are resented by inmates. Administrators must weigh the advantages versus the disadvantages of instituting searches regularly.

Examining inmate movement patterns and the control procedures involved is also warranted. High risk periods associated with shift changes in the afternoon might be addressed with adequate coverage and the ability to respond quickly to altercations. Several questions need to be answered. Do all COs remain at their posts until relieved? Are all inmates in medium and maximum security institutions secured during shift change? Are there ways to decrease the large numbers of inmates that move or congregate in mass at certain periods, such as during meals? Are there better ways to staff and deal with mass inmate movements and activities? Is staffing adequate? Limiting the number of inmates that a given CO is exposed to would "reduce the amount of injurious agents" (Haddon), noting that the mechanical injury discharged by an inmate is an injurious agent.

The timing of high risk periods for injury would also lend support for

the need of additional, structured inmate activities. Corrections experts have long contended that inmate inactivity and boredom increase the likelihood of disciplinary infractions and violence. A large portion of inmates in all of the major institutions had daily work, training, or school assignment that occupied a six to eight hour time period. Concomitantly, with the exception of MHC, most maximum and medium security inmates are housed in double cells. Lack of privacy may potentiate acting out behaviors and violence (Megargee, 1976, 1977a; McCain, Cox, and Paulus, 1980; Atlas, 1981).

With the segregation housing accounting for the highest proportion of study episodes (over 29%) and housing sites in general accounting for two-thirds of all incidents, staffing of these areas should be re-examined. Procedures relevant to meals, showers, exercise periods, and transfers/escorts need to be re-examined. Serious altercations occurred in the segregation area during these activities and periods. Inmates assigned to segregation cells were locked in at least 23 hours per day. These individuals experienced some degree of sensory deprivation. Tempers were "short" with inflammatory and violent behaviors common. Increased staffing in the segregation area would permit more frequent inmate exercise periods and afford increased officer support. Severely limited inmate exercise periods and other forms of external stimulation may increase the risk to COs of assault, battery, and injury.

A final management issue concerns the use of the "quick response team" with stable membership. MCIH was characterized as the prison with the highest proportion of COs having had multiple episode involvements. This institution also had high risk inmates (i.e., younger than the DOC mean, highest proportion of segregation beds). Rural

institutions, of which MCIH was one, were also high risk for involvement and injury. One must question whether this kind of "team" reduced CO injuries or potentiated the development of situations producing injuries. At the least, team members experienced an exceptionally high risk of injury. If the practice of stable team assignment continues, special training seems warranted.

5.3.3 Environmental Design Implications: Environmental modifications to aid in the control of injury-producing conflict have been suggested by other researchers. This study lends support to the utility of small versus large prisons (i.e., under 1000, preferably under 500, inmates). The episode and injury rates at MHC, as compared with other major DOC prisons, lends additional support for single cell housing. Note that all DOC prisons, excluding the Pre-Release System, were overcrowded.

Prisons are built of hard, unyielding substances and furnished with similar materials -- metal, concrete, and stone. COs noted that many injuries are due to falls against objects in the environment. Carpeting walls and floors and rounding sharp edges probably would reduce injuries (Haddon's 7th countermeasure). However, housekeeping and flammability problems associated with this approach might be overwhelming for many, if not most, correctional facilities. Further attempts to "soften" the environment are appropriate.

Episode occurrence and injury varied by site between institutions. A common feature related to occurrence, even though the high risk sites may have varied between prisons, was how observable and rapidly accessible was the site. If these factors were present, injuries were more likely to occur. For instance, inmate dining rooms at MCIJ and MCTC are separate

buildings, removed from housing areas. Like other DOC dining rooms, these areas contained large numbers of inmates simultaneously. The dining rooms were high risk areas at MCIJ and MCTC, as compared to other prisons. Designs of new prisons need to reflect humane facilities, while providing for the security of staff and inmates.

Two final research implications deserve mention. Further exploration of the meaning of prior history of inmate verbal abuse, battery, and battery injury as a risk factor of future episode involvement and subsequent injury is indicated. Does a prior positive history reflect prior high risk assignments? Perhaps high risk CO behaviors for involvement and injury have continued. Exploring the importance of CO duty assignment would help to distinguish its contribution to involvement and injury as compared to CO behaviors.

Security classification for prisons and inmates, as it is implemented in Maryland, deserves further attention. Its predictive utility in identifying dangerousness to staff is lacking. The LDS scoring method deserves further testing, with an incorporation of an inmate control group in the design.

The study findings and conclusions that have been presented are generalizable to all Maryland state prisons. Because Maryland's Division of Correction consists of diverse and varied facilities, other prison systems may find commonalties. Incidence rates for assault, battery and injury of correctional officers may vary from system to system and institution to institution. However, as a system or institution reflect characteristics found in the Maryland system or institution, study findings may suggest control strategies relevant to their problem of officer assault and battery. Study replication in other systems would either strengthen or refute the

predictive models developed and supported by statistical analysis. As a significant occupational health concern, the problem of assault, battery, and injury of correctional officers by inmates deserves further examination.

APPENDIX A

"Assault, Battery and Injury of Correctional
Officers by Inmates: An Occupational Health Study"
Study Permission Form

You are being asked to participate in a research study titled "Assaults on Correctional Officers" conducted by Winifred Hayes, a doctoral student in Occupational Health at the School of Hygiene and Public Health, The Johns Hopkins University. The purpose of this study is to examine the problem of assaults on correctional officers by inmates. Additional sources and indicators of stress will also be examined. As you probably are aware, many of the concerns and problems of correctional officers have not been studied to any great extent. With your cooperation, it is hoped that much useful information will be learned from this research and used to improve the working conditions and health of correctional officers. The American Federation of State, County and Municipal Employees, Maryland Classified Employees Association, and the Division of Corrections are supporting this research project.

Participation in the study involves filling out a questionnaire requiring approximately 15 minutes to complete during work hours. The questionnaire will be administered at the beginning of the study. Participants will be asked to again fill out selected sections of the questionnaire at the end of the study. If, in the course of the study, you are assaulted, some of you will be asked to answer some questions regarding the incident (i.e., requiring about 15 minutes during work hours). The study will last approximately six months.

Some of the questions are of a personal nature. These questions are being asked for several reasons. Some items relate to aspects reflecting your current situation, others deal with relevant personal opinions and beliefs, and still others indicate how you might deal with stresses and problems. There are no right or wrong answers. Your responses will in no way jeopardize your job. You may choose not to answer selected questions or refuse to participate in the study in its entirety if you wish.

Every effort will be made to maintain the confidentiality of your answers. No one's answers will be individually identified nor shared in such a way that others such as the administration, the union, and other correctional officers might identify the officer. Correctional officer study identification numbers, assigned at the beginning of the study, will be used only to match your questionnaire responses and assault data. No one but myself, the principal investigator, will have access to the officer identification key.

During the study, all data will be secured under lock at The Johns Hopkins University School of Hygiene and Public Health. At the completion of the study, all personal identifying information will be destroyed.

Participation in the study is voluntary. At any time before or during the study you have the right to ask questions concerning the study. If you desire, you may withdraw from the study at any time. You will not be penalized for deciding not to participate in the study nor if you later withdraw from the study. Results of the study will be shared with you.

If you agree to participate in the study "Assaults on Correctional Officers", please sign this informed consent form below. Your participation is needed and greatly appreciated. Thank you.

Sincerely,

Winifred Hayes
Doctoral Student
(301) 955-3295

_____ _____
CO Signature Witness

_____ _____
CO Study Identification No. A Date

_____
Month and Year Employed by
Division of Corrections

_____ (lbs.) _____ (ft.,in.)
Weight Height

C.O. Identification Number B ___ ___ ___ ___ ___

(to be recorded on a front tear sheet attached to the questionnaire)

APPENDIX A

CORRECTIONAL OFFICER QUESTIONNAIRE

DIRECTIONS (Read to Subjects)

Please fill out the following questionnaire to the best of your ability. Ask questions about any item you are not sure how to answer.

Many of these questions are personal. Every effort will be used to maintain confidentiality of your answers. At no time will an officer's specific remarks be given to or shared with anyone, including the administration and union, in a manner by which that officer might be identified. Study identification numbers will be used only to compare your responses to this questionnaire with future information that would be collected if you are assaulted by an inmate in the next several months. At the end of the study, all personally identifying information, including study identification numbers, will be destroyed.

The findings and results of this study will be shared with you. Your participation in this research study is greatly appreciated and should help in understanding and dealing with some of the occupational health problems which correctional officers experience.

For each of the following questions about your job, choose one answer only. There is no right or wrong answer. Your responses should reflect your true feelings.

1. All in all, how satisfied would you say you are with your job?

   ☐ very satisfied ☐ not too satisfied

   ☐ somewhat satisfied ☐ not at all satisfied

2. If you were free to go into any type of job you wanted, what would your choice be?

   ☐ I would want the job I now have.

   ☐ I would retire and not work at all.

   ☐ I would prefer some other job to the job I now have.

3. If a good friend of yours told you he (or she) was interested in working as a correctional officer for the State of Maryland, what would you tell him (or her)?

   ☐ I would strongly recommend the job.

   ☐ I would have some doubts about recommending the job.

   ☐ I would advise my friend against it.

4. In general, how well would you say that your job measures up to the sort of job you wanted when you took it?

   ☐ very much like the job I wanted

   ☐ somewhat like the job I wanted

   ☐ not very much like the job I wanted

5. Knowing what you know now, if you had to decide all over again whether to take the job you now have, what would you decide?

   ☐ I would decide without hesitation to take the same job.

   ☐ I would have some second thoughts.

   ☐ I would decide definitely not to take the same job.

6. Please put a "1" by the most important mission of corrections, and a "2" by the second most important.

   ☐ punish inmates for their crimes

   ☐ secure inmates, thereby protecting the public

   ☐ change inmates so they can become law abiding citizens

   ☐ none of the above

7. Do you think officers can prevent assaults involving physical violence by inmates on themselves or other officers? (CIRCLE ONLY ONE)

4	3	2	1
never or rarely	not usually	sometimes	always or almost always

8. How preventable are injuries to you or fellow officers when in physical confrontations with inmates? (CIRCLE ONLY ONE)

4	3	2	1
almost always	usually	not usually	rarely or never

---

items # 1 - 5 are based on: Quinn, Robert P. and Sheppard, Linda J. The 1972-73 Quality of Employment Survey. Ann Arbor, Univ. of Michigan, The Institute for Social Research, 1974.

9. In assaultive episodes, injuries to officers usually occur as a result of: (YOU MAY CHECK ONE OR MORE ANSWERS)

- ☐ COs falling against objects in the environment (ex., bars, floor, bed frame).
- ☐ COs lacking sufficient training in self-defense techniques.
- ☐ inmates being in better physical condition than COs.
- ☐ COs aggravating an already aggitated inmate.
- ☐ COs being taken by surprise.
- ☐ COs not waiting for reinforcement from other COs.
- ☐ just a matter of chance.

other _____

10. I often feel I have little or no power in carrying out my responsibilities as a correctional officer. (CIRCLE ONLY ONE)

5	4	3	2	1
strongly agree	somewhat agree	neither agree nor disagree	somewhat disagree	strongly disagree

11. Taking all things together, how would you say you are these days? Would you say you are:

☐ very happy ☐ pretty happy ☐ not too happy

12. When I am angry, upset, or unhappy about work, I find that I usually: (CHECK ALL ANSWERS THAT APPLY)

- ☐ spend time on a hobby or another interest.
- ☐ keep it inside myself.
- ☐ become physically ill (ex., headache).
- ☐ become nervous or anxious.
- ☐ talk it over with a friend.
- ☐ talk it over with my spouse.
- ☐ have a drink(s).
- ☐ use drugs.
- ☐ work it out through sports or physical labor.
- ☐ strictly enforce rules and regulations.
- ☐ deal harshly with inmates.
- ☐ take it home with me.
- ☐ sleep more than usual.
- ☐ tell myself it is not important.
- ☐ try to change the system.
- ☐ call in sick.
- ☐ reason through feelings.
- ☐ take off from work.
- ☐ argue with fellow COs.

other _____

CIRCLE THE NUMBER which is closest to your feeling about the following statements.

		strongly agree	mildly agree	neither agree nor disagree	mildly disagree	strongly disagree
13.	Those who break laws should never be excused for their crimes.	5	4	3	2	1
14.	A personal insult should not be forgotten.	5	4	3	2	1
15.	Inmates would benefit from strict discipline and strongly enforced rules and regulations.	5	4	3	2	1
16.	The death penalty for serious crimes should be abolished entirely.	5	4	3	2	1

17. Do you completely understand the missions of corrections?

☐ yes ☐ no ☐ I don't know

18. Do you completely understand your responsibilities as a CO?

☐ yes ☐ no ☐ I don't know

19. Do you feel you can achieve these responsibilities on your job now?

☐ yes ☐ no ☐ I don't know

20. Is direction from your supervisors clear and consistent?

5	4	3	2	1
always	usually	sometimes	not usually	rarely

21. When verbal abuse by an inmate is directed at you, what is the <u>first</u> thing that you do? (CHOOSE ONLY ONE)

☐ give him a smart comment
☐ yell back at the inmate
☐ stare down the inmate
☐ immediately write the inmate up
☐ physically restrain or lock the inmate up
☐ tell the inmate to shut up
☐ ignore the inmate
☐ threaten the inmate
☐ call for assistance
☐ ask the inmate what is wrong
☐ tell the inmate to calm down

other _____

_____

22. If you are in physical contact with an inmate, how avoidable is injuring the inmate? (CIRCLE ONLY ONE)

4	3	2	1
always	usually	not usually	rarely or never

23. I have alot of opportunity to make changes within this institution. (CIRCLE ONLY ONE)

5	4	3	2	1
strongly agree	somewhat agree	neither agree nor disagree	somewhat disagree	strongly disagree

24. What is your major source of work stress? (CHOOSE ONLY ONE)

- ☐ lack of public respect
- ☐ work environment
- ☐ fellow COs
- ☐ immediate supervisors
- ☐ characteristics of the job itself
- ☐ work schedule
- ☐ inmates
- ☐ DOC administration

other _____

25. How often are you or fellow COs injured on your way to an assaultive episode?

5	4	3	2	1
always or almost always	frequently	once in a while	not usually	rarely or never

26. When you find inmates fighting, what do you usually do first? (CHOOSE ONLY ONE)

- ☐ call for CO assistance rather than attempting to break up the fight alone.
- ☐ let the inmates fight it out for awhile.
- ☐ ask for assistance from other inmates in breaking up the fight.
- ☐ step in and break up the fight immediately.
- ☐ attempt to "talk" the inmates apart prior to calling for CO assistance.

other _____

_____

27. Compared with other work problems a CO faces, how important and serious is the problem of assaults by inmates?

5	4	3	2	1
extremely important	very important	somewhat important	not too important	not at all important

28. What do you think is the most likely, serious problem resulting from physical confrontations with inmates? (CHOOSE ONLY ONE)

- ☐ legal problems (civil suits, criminal charges)
- ☐ mental anguish, psychological stress
- ☐ physical disability
- ☐ disciplinary action by the administration
- ☐ nothing

other _____

29. Because of situations or events in my job, I frequently feel angry, frustrated, anxious, and/or unhappy. (CIRCLE ONLY ONE)

5	4	3	2	1
strongly agree	somewhat agree	neither agree nor disagree	somewhat disagree	strongly disagree

30. In general, how satisfying do you find the ways you're spending your life these days? Would you call it:

- ☐ completely satisfying
- ☐ pretty satisfying
- ☐ not very satisfying

31. In general, how would you describe your health?

5	4	3	2	1
excellent	good	fair	poor	bad

Some assaults on COs go unreported. Officers may be frightened of inmate retaliation and prefer to handle inmate discipline themselves, or feel that writing up an assault event is a waste of time. In trying to determine the true nature of the assault on officers problem, it would be helpful to know how many such events are not reported officially. Please try to be as accurate as possible in indicating the number of times, if any, these events happened to you and the number of times, if any, that you did not report them. Writing zero may be a correct answer for you for some or all of the following questions (#32 - #34).

32. a. In the past 30 days, how many times were you verbally threatened or abused by an inmate? _____

b. How many of these verbal situations were not written up? _____

33. a. In the past 30 days, how many times were you physically assaulted by a combative inmate at work? _____

b. How many of these physical confrontations were not written up? _____

34. a. Since you have been employed by the DOC, how many times have you been physically injured by an inmate? _____

b. Describe the injuries (ex., cut finger, broken jaw, back strain).

_____ _____

_____ _____

_____ _____

_____ _____

c. How many of these injuries were not written up? _____

d. How many total working days were you absent as a result of these injuries? _____

e. How many of these injuries occurred in the last year? _____

GENERAL QUESTIONS

35. Age: ☐

36. Sex: ☐ male ☐ female

37. Race: ☐ black ☐ white ☐ other

38. Marital status:

☐ single, never married ☐ widowed

☐ married, 1st time ☐ divorced or separated, 1st time

☐ married, more than once ☐ divorced or separated, more than once

39. Education - CHECK HIGHEST COMPLETED GRADE.

☐ elementary school or less ☐ some college (incl. AA degree)

☐ junior high school ☐ college degree (4 years)

☐ some senior high school ☐ graduate school

☐ high school diploma or GED

40. Have you successfully completed the Division of Corrections' Basic Training Program at the Academy? ☐ yes ☐ no

41. Have you received any additional training in self-defense techniques (other than that covered in the basic training program)?

☐ yes ☐ no

42. Have you received any additional training in handling disturbed, abusive, and/or manipulative individuals? ☐ yes ☐ no

43. Have you served in the military? ☐ yes ☐ no

44. (If yes to 43) Did you serve in combat? ☐ yes ☐ no

45. CIRCLE THE NUMBER of dependents (children, spouse, parents, etc.) you are supporting or helping to support. Don't count yourself.

0 1 2 3 4 5 6 7+

If you are married, answer the following three questions: #46, #47, and #48.

46. Does your spouse work? ☐ yes ☐ no

47. What is your spouse's occupation? _____

_____

48. How many years of education does your spouse have? (CHECK HIGHEST COMPLETED GRADE)

☐ elementary school or less ☐ some college (incl. AA degree)

☐ junior high school ☐ college degree (4 years)

☐ some senior high school ☐ graduate school

☐ high school diploma or GED

49. If you have any comments, questions, or suggestions about this questionnaire, please list below or discuss them with the researcher.

_____

_____

_____

_____

_____

_____

_____

APPENDIX B

THE LEGAL DANGEROUSNESS SCALE

1. Any Juvenile Adjudication: Yes = 8
   No = 0 _____

2. Number of Previous Incarcerations: 2 or more = 4
   1 or less = 0 _____

3. Any Previous Violent Crime Conviction: Yes = 2
   No = 0 _____

4. Current Offense: Violent = 1
   (Nos. 1 and 2 of list below)
   Non-violent = 0 _____

TOTAL SCORE _____

1. Offenses against the person involving injury, restraint, and intimidation (assault, homicide, robbery, extortion, menacing, kidnapping, coercion, murder, manslaughter, reckless endangerment, promoting a suicide attempt, criminally negligent homicide, arson 1st degree).

2. Offenses potentially against the persons (burglary 1st and 2nd degrees).

3. Offenses involving sexual conduct (rape, sodomy, sexual abuse, sexual misconduct, carnal abuse).

4. Offenses involving damage to and intrusion upon property (burglary 3rd degree, criminal trespass, unlawful entry, criminal mischief, arson 2nd and 3rd degrees).

5. Offenses involving theft (larceny, criminal possession of stolen property, jostling, fortune telling, unlawful use of a motor vehicle).

6. Offenses involving fraud (forgery, false written statements, unlawful use of slugs, issuing a bad check, criminal usury, criminal impersonation).

7. Offenses against public health and morals (dangerous drug offenses, i.e., possession of and/or selling a dangerous drug, gambling, prostitution, obscenity, impairing the morals of a minor).

8. Offenses against marriage, the family, and the welfare of children and incompetents (incest, bigamy, adultery).

9. Other (loitering, intoxication, non-criminal trespass, disorderly conduct, vagrancy, tramp, offensive exhibition, public lewdness, harassment, exposure of or promoting the exposure of a female, indecent exposure, truancy, violation of immigration laws, weapon possession, possession of burglary tools).

APPENDIX C

ASSAULTS ON CORRECTIONAL OFFICERS

CODING KEY

Institution

01 MD House of Corrections - Jessup (MHC)
02 MD Correctional Institution - Jessup (MCIJ)
03 MD Institution for Women - Jessup (MCIW)
04 MD Penetentiary - Baltimore (MDP)
05 MD Reception, Diagnostic and Classification Center - Baltimore (MRDCC)
06 MD Correctional Training Center - Hagerstown (MCTC)
07 MD Correctional Institution - Hagerstown (MCIH)
08 Butler Building, Work Release: Emergency Housing Unit - Hagerstown (EHU)
09 Roxbury Unit - Hagerstown (RUH)
10 Jessup Pre-Release Unit (JPRU)
11 Brockbridge Correctional Facility (BCF)
12 Southern MD Pre-Release Unit (SMPRU)
13 Eastern Pre-Release Unit (EPRU)
14 Poplar Hill Pre-Release Unit (PHPRU)
15 Pre-Release Unit for Women (PRUW)
16 Baltimore Pre-Release Unit (BPRU)
17 Central Laundry - Sykesville (CL)
18 University Hospital Locked Ward (UH)
99 missing data

Initial and Primary Sites of Event

01 single cell (regular housing unit)
02 double cell (regular housing unit)
03 cell block hallway or foyer (regular housing unit/dorm)
04 dormitory (regular housing unit)
05 dormitory (temporary)
06 protective custody cell (single)
07 protective custody cell (double)
08 segregation cell (single)
09 bathroom (inmates')
10 segregation cell (double)
11 cell block hallway or foyer (P.C.)
12 cell block hallway or foyer (seg.)
13 reception area/holding area (e.g. bullpen-MDP, Room 24-MHC)
14 recreation room/area (not gym/yard)
15 counseling area
16 gym
17 shower area
18 kitchen
20 inmates' dining room
21 officers' dining room
22 shop
23 educational area
24 yard
25 staff offices (admin. area)
26 adjustment/parole hearing area
27 court
28 vehicle (in transit)
29 staff office/bathroom area (housing unit)
30 infirmary
31 laundry
32 visitor area
34 chapel area
35 quanset hut/trailer
36 general hall or corridor
37 other
38 command area/control point (e.g. center hall-MHC, back keys-MCIH)
99 missing data

Inmate's Housing Area

10 single cell (regular housing unit)
12 double cell (regular housing unit)
13 dormitory - cubicles
14 dormitory - open space
15 dormitory - temporary
16 private custody cell, single
17 private custody cell, double
18 segregation cell, single
10 segregation cell, double
11 quanset hut
12 trailer
13 cottage
14 Special Behavior Confinement Area (SBCA)/hole
15 other
99 missing data

Week Day

1 Sunday
2 Monday
3 Tuesday
4 Wednesday
5 Thursday
6 Friday
7 Saturday

Time of Event

(take CO's reported time over non-correctional personnel's estimate)

9999 missing data
____ code time using 2411 hour clock

Overall Valance of Event

0 other
1 inmate to inmate (2)
2 inmate to officer
3 inmates (2-5) to officer
4 inmate to officers and/or others
5 inmate to non-correctional staff, volunteer
6 inmate to visitor
7 officer to inmate
8 multiple inmate confrontation (6+)
9 missing data

Initial Event and Event Outcome

(by most serious outcome)

If there is an outcome other than 9 or 11, code as such.
When using 15 or 19, try to code the "why".

01 inflammatory talk
02 inflammatory action (e.g. spitting)
03 verbal threat
04 withholding contraband
05 suicidal threat
06 suicide attempt
07 resisting transfer
08 escape attempt
09 assault with battery, no injury
10 assault with battery, with injury
11 rape, heterosexual
12 rape, homosexual
13 heterosexual advance
14 homosexual advance
15 disobeying orders, passive
16 disclosing information
17 stealing
18 bizarre or psychotic conduct
19 disobeying orders, active but not battery
20 murder
21 death
22 escape
23 throwing object or refuse
24 excessive noise
25 destruction of property
26 attempted battery
27 resisting personal search
28 other
99 missing data

Weapons Used by CO and/or Inmate

(match weapons used with appropriate inmates and COs whenever possible)

00 none
01 fist/hand (grabbing)
02 foot/leg
03 teeth/mouth
04 arm/upper torso
05 multiple body parts (wrestling)
06 handcuffs
07 handgun
08 knife
10 homemade knife (metal)
11 club (metal)
12 club/baton/riot stick
13 broom/mop
14 furniture
15 Mace
16 rope
17 glass
18 rifle/shotgun
20 food tray
21 homemade pick (shank)
22 eating utensils
23 multiple weapons other than body parts
24 multiple body parts and other weapons
25 water cannon
26 food/fluid
27 eating utensils and food/fluid
28 other
99 missing data

Principal and Secondary Methods of Control

(match individual CO to inmate whenever possible)

01 verbal communication
02 physical restraint, 1 CO pulling,
03 physical restraint, 2 COs subduing,
04 physical restraint, 3 COs pushing
05 physical restraint, 4+ COs
06 environmental chemical (e.g. Mace)
07 handcuffs
08 shield
09 handcuffs and leg irons
10 handgun
11 rifle/shotgun (shooting pellets, bullets, etc.)
12 club/billy stick
13 blow with fist or hand
14 blow with object other than noted above
15 confiscate weapon
16 lockup, immediate
17 other
99 missing data

Number of Inmates Participating in the Event

1 one
2 two
3 three
4 four
5 five
6 six
7 seven
8 eight or more
9 missing data

Number of Correctional Officers Participating in the Event

1 one
2 two
3 three
4 four
5 five
6 six
7 seven
8 eight or more
9 missing data

Substance Abuse

0 none
1 alcohol (alias: jump steady, hoach, fermented juice)
2 drug or mind altering substance other than alcohol
3 both drugs and alcohol
9 missing data

Injury Severity
(from Abbreviated Injury Scale (AIS), 1981)

0 no injury
1 minor (if wrestling, exchange of blows, etc. even if no injury is noted)
2 moderate (3 or more minor significant injuries, e.g. human bite, lacerations requiring sutures, etc.)
3 serious
4 severe
5 critical
6 maximum injury virtually unsurvivable in AIS-81 (death)
9 missing data

Title of Other Personnel Involved/Injured

00 no one
01 teacher
02 social/psychological counselor
03 classification counselor
04 contractor
05 secretarial/clerical
06 medical (nurse, physician, etc.)
07 volunteer
08 visitor
10 administrator
11 other
99 missing data

Correctional Officer Classification
(for each officer participating in the episode)

1 CO I
2 CO II (Corporal)
3 CO III (Sergeant)
4 CO IV (Lieutenant)
5 CO V (Captain)
6 CO VI (Major) and above
7 Assistant Warden
8 Warden
9 missing data

Inmate Race

1 Black
2 White
3 other
9 missing data

Inmate Sex

1 male
2 female

Inmate Age

Code number of years (round up if 1/2 year or more).

Inmate Role

1 aggressor/provoker
2 victim
3 other
9 missing data

Inmate Security Classification

1 pre-release
2 minimum security
3 medium security
4 maximum security
9 missing data

Inmate's Legal Dangerousness Scale (LDS) Score
(See Appendix A)

00 not predicted to be dangerous . . . to
15 predicted to be very dangerous
99 missing data

Length of Inmate's Sentence and Sentence Remaining
(if sentence is less than 1/2 year, code as .5)

__ __ years (round up if 1/2 year or more)
101 life

102 life +
999 missing data

Disciplinary Action toward Provoking Inmate
(segregation time usually implies loss good time as well)

0 none/reduced to incident report
1 probation
2 loss of good time
3 segregation (1 to 29 days)
4 segregation (31 to 89 days)
5 segregation (90 to 179 days)
6 segregation (180 to 364 days)
7 segregation (365+ days)
8 other
9 missing data

Assaultive Episode Category

3 inmate assault and battery on inmate, no injury to CO
4 inmate assault and battery on officer, no injury to CO
5 inmate assault and battery on inmate, with injury to CO
6 inmate assault and battery on officer, with injury to CO
7 other (e.g. escape with recapture)

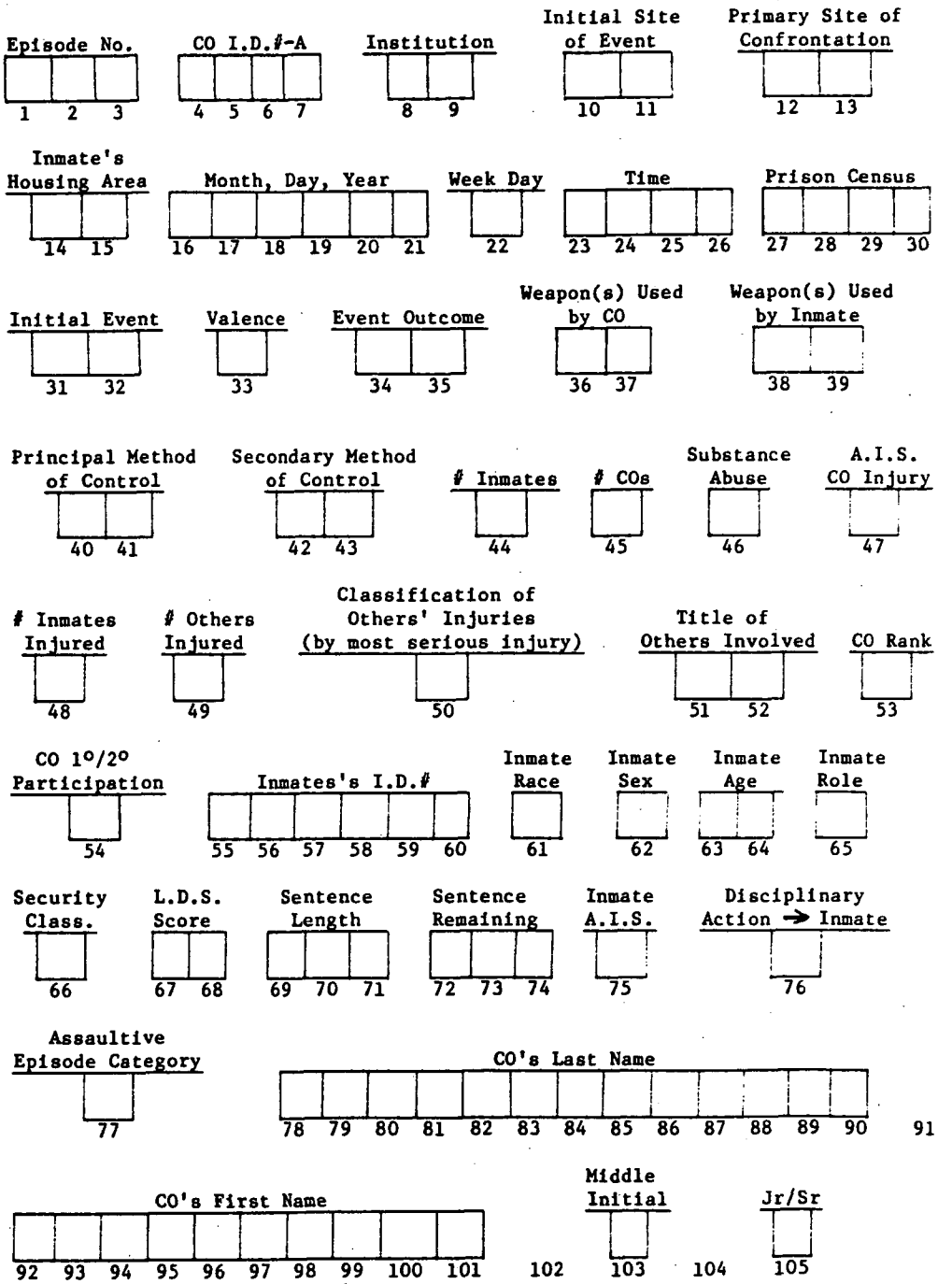
Code all inmates physically involved with CO, whether or not victim.

If victim is not physically involved with CO, do not code.

(To be filled out for each correctional officer involved in an assaultive episode.)

APPENDIX D

ASSAULTIVE EPISODE CODING FORM



APPENDIX E

Glossary of Terms and Acronyms

Prison System and Institutions

1. Maryland, Division of Correction (DOC) - This is the state operated prison system housing adult male and female offenders with sentences of one year or more.

2. Maryland Penitentiary (MDP) - This prison is the principle maximum security facility in Maryland, located in Baltimore and housing male inmates classified as dangerous.

3. Maryland Reception, Diagnostic and Classification Center (MRDCC) - Also located in Baltimore and classified as maximum security, this prison is the entry point for all newly sentenced and incarcerated inmates.

4. Maryland Correctional Insititute - Hagerstown (MCIH) - Located in a rural setting near Hagerstown, this medium security institution houses a high proportion of the Division's violent and incorrigable inmates, assigned to disciplimary or restricted housing (i.e. segregation housing).

5. Maryland Correctional Training Center (MCTC) - The largest state prison (size and inmate population), this medium security facility is located adjacent to MCIH and has the youngest inmate population within DOC.

6. Maryland House of Correction (MHC) - Located in Jessup, this medium security facility houses career (i.e. volder) criminals classified as less dangerous than those at MDP and MCIH.

7. Maryland Correctional Institution - Jessup (MCIJ) - Adjacent to MHC, this new prison houses medium security inmates that are generally younger than those at MHC.

8. Maryland Correctional Institution - Women (MCIW) - Also located in Jessup, this maximum security houses all female offenders within DOC, with the exception of 30 to 40 housed in the Pre-Release System.

9. Brockbridge Correctional Facility (BBCF) - A medium security institution located in Jessup, this prison offers many inmates a transitional site prior to entry into the Pre-Release System.

10. Maryland Pre-Release System (PRS) - Composed of multiple facilities each housing less than 250 inmates, the Pre-Release System has sites in Baltimore, Jessup, Sykesville, Hagerstown, Quantico, Charlotte Hall, and Church Hill Maryland. Inmates in this system are classified as minimum or pre-release security.

Terms

1. Assault - A threat with words or action to physically harm an individual.

2. Battery - Physical use of force used in conflict with another individual. Battery may or may not involve assault, that is an individual may strike another person from behind without threat or warning.

3. Protective Custody (PC) - A housing assignment which restricts inmate activities outside of the inmates' immediate cell area. Inmates housed in protective custody are considered to be at risk of injury in the general inmate population.

4. Segregation - A housing assignment for inmates convicted of rule infractions. Activities outside of the inmates' cell are restricted. These inmates are considered more dangerous to staff and other inmates than those in the general inmate population.

5. Security Classification - A system used to define the overall risk or dangerousness of an institution's inmate population and the risk or dangerousness of each inmate. Institutions and inmates are classified as maximum, medium, minimum and pre-release security. Institutions may contain inmates with a "lower" security classification than the institution classification (i.e. medium security inmates housed in a maximum security facility).

Appendix F

Additional Socio-demographic Characteristics
of the Correctional Officer Cohort
(Maryland Division of Correction; November 1, 1982 - April 30, 1983)

Variable	Number of COs	Percent of COs	Missing Observations
Marital Status	1282	100.0	32
Single	273	21.3	
Married First Time	585	45.6	
Married Second Time	191	14.9	
Widowed	11	0.9	
Separated/Divorced First Time	194	15.1	
Separated/Divorced Second Time	28	2.2	
Education	1281	100.0	33
Elementary	6	0.5	
Junior High	2	0.2	
Some Senior High	15	1.2	
Highschool Diploma/GED	529	41.3	
Some College/AD	569	44.4	
College Degree (BS)	136	10.6	
Graduate School	24	1.9	
Number of Dependents	1276	100.0	38
None	214	16.8	
One	290	22.7	
Two	306	24.0	
Three	273	21.4	
Four	124	9.7	
Five or More	69	5.5	
Spouse's Occupation	774	100.0	540
Higher	261	33.7	
Comparable	188	24.3	
Lower	116	15.0	
Housewife	209	27.0	
Veteran Status	758	58.3	13
Combat Experience	283	21.8	14

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CURRICULUM VITAE

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Home Address:	1040 Singer Lane Norristown, PA 19403
Home Phone Number:	(215) 584-0371
Birthplace and Birthdate:	Amory, Mississippi March 28, 1949
Social Security:	220-50-4400
Marital Status:	married (Robert E. Hayes, Jr.) two children (Matthew, 5 yrs., Katherine, 4 mos.)

Employment:

February, 1983 - Present	Director Quality Health Services, Inc. P.O. Box 829, 124 Tenth Street Quakertown, PA
June, 1978 - May, 1980	Project Director Southern Regional Education Board/Kellogg Foundation Project, Faculty Development in Primary Care Emory University Nell Hodgson Woodruff School of Nursing Atlanta, Georgia
September, 1975 - May, 1980	Assistant Professor and Instructor Emory University Nell Hodgson Woodruff School of Nursing Atlanta, Georgia
February, 1973 - June, 1975	Instructor and Assistant Instructor University of Maryland School of Nursing Baltimore, Maryland

Employment (con't)

June 1971 - January, 1973	Team Leader and Staff Nurse University of Maryland Hospital Baltimore, Maryland

Education:

September 1979 - April 1985	Doctor of Philosophy Environmental Health Sciences The Johns Hopkins University School of Hygiene and Public Health Baltimore, Maryland
January, 1975 - May, 1977	Primary Care Nurse Practitioner Program University of Maryland School of Nursing Baltimore, Maryland
August 1974	Master of Science University of Maryland School of Nursing Baltimore, Maryland Major: Medical - Surgical Nursing Minor: Education
June 1971	Bachelor of Science, with Honors University of Maryland School of Nursing Baltimore, Maryland

Professional Organization Membership:

American Public Health Association
American Nurses' Association
Georgia Nurses' Association
Director, Fifth District Georgia Nurses' Association (December 1977 - February 1979)
Adult Health Nurse Practitioner Conference Group, G.N.A.
Pennsylvania Nurses' Association, Philadelphia Chapter
American Association of Occupational Health Nurses

Professional Organization Membership (con't)

Pennsylvania Association of Occupational Health Nurses, Philadelphia Chapter
American Correctional Health Services Association
American Correctional Association

Honorary Organization Memberships:

Sigma Theta Tau (National Nurses' Honor Society)
Phi Kappa Phi (National Honor Society)

Scholarships and Grants:

September, 1982 - April, 1985	Graduate Research Fellow National Institute of Justice U.S. Justice Department
June 1982 - Present	Sole Source Contractor Division of Correction Maryland Research Grant: "Assult, Battery and Injury of Correctional Officers by Inmates: An Occupational Health Study" Funding Source: National Institute of Corrections
1982	Johns Hopkins University Alumni Association Award Scholar
September 1979 - August 1982	National Institute of Occupational Safety and Health Training Grant
1967 to 1971	Senatorial Scholarship

Publications:

Hayes, Winifred S. "Scratch and Patch Skin Test", In: Procedures. Intermed Communications Co., Springhouse, Pennsylvania, Fall, 1982.

O'Shea, P. and Hayes, Winifred S. "Adolescence and Alcohol." The Nurse Practitioner, November, 1982.

Publications (con't)

Hayes, Winifred S. "Diverticular Disease in the Older Adult," In: Common Problems in Primary Care. Gorline, L. and Stigbauer, C., Editors, C.V. Mosby Co., 1982.

Brykczynski, K., Hayes, Winifred S., et al. "Nursing Faculty Develop Primary Care: A Problem Oriented Experential Account." Nursing and Health Care, The National League for Nursing, December, 1981.

Hayes, Winifred S. and Davis, Linda L. "What is a Health Care Contract?", Health Values, March-April, 1980.

Hayes, Winifred S. "Health Promotion and Illness Prevention: An Educational Program for Male and Female Offenders in Work and Pre-Release Centers", Department of Offender Rehabilitation, Atlanta, Georgia, Fall, 1978.

Davis, Linda L. and Hayes, Winifred S. "Media for an Integrated Nursing Curriculum", Journal of Nursing Education, October, 1977.

Consultation:

Text Review Consultant with:

Holt, Rinehart, and Winston Publishing Company
- physical assessment text perspective

The C.V. Mosby Company
- primary care protocol text

Intermed Communications Publishing Company
- procedures manual

Consultation (con't)

February 1982 - March 1983	The Visiting Nurse's Association/ Home Health Care Agency of Montgomery County (Pennsylvania) and Vicinity - developing an occupational health program for Montgomery County and vicinity - coordinating activities related to opening of new primary health care center
Winter 1980 - Present	American Institute of Criminal Justice (formerly American Foundation) Philadelphia, Pennsylvania
Spring 1979 - Winter 1980	American Foundation Institute of Corrections Philadelphia, Pennsylvania - part of external audit team evaluating Oklahoma's Department of Corrections' Health Care Plan and Delivery System
Spring 1979 - Present	Consultant and Adjunct Faculty University of Pennsylvania School of Nursing Philadelphia, Pennsylvania - intermittently worked with the School developing primary care clinical sites for students, physical assessment course, and projects related to occupational health.
January 1983 - Present	Continuing Education Faculty Montgomery, Bucks, and Delaware Community Colleges, Pennsylvania

Consultation (con't)

September 1976 - February 1979	Consultant/Nurse Practitioner New Horizons Treatment Center (formerly Atlanta Women's Pre-release Center) Department of Offender Rehabilitation Atlanta, Georgia

Certification and Licensure:

November 18, 1978	Adult Nurse Practitioner American Nurses' Association Certification
October 1982	Certified Registered Nurse Practitioner Commonwealth of Pennsylvania NP-000641-A - renewal date: October 30, 1986
Fall 1979	Registered Professional Nurse Commonwealth of Pennsylvania RN-237423-L - renewal date: October 31, 1986