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A Longitudinal Study
of
Violent Criminal Behavior

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Executive Summary

The purpose of this research was to investigate the biopsychosocial correlates and determinants of violent criminal behavior. One aspect of this research involved a detailed review of the literature on aggression and violence in the light of Megargee's theoretical framework for the analysis of aggressive behavior. This theory postulates that an aggressive act is the outcome of an interaction between personal (internal) factors and situational (external) factors. The personal or internal factors that are conducive to aggressive behavior are "instigation" (or motivation) and "habit strength." There are two types of instigation or motivation, "extrinsic" and "intrinsic." Extrinsic ("instrumental") motivation is using aggression as a means to an end, such as obtaining money from a robbery or power from an act of terrorism. Intrinsic ("angry") aggression is motivated simply by animosity or a desire to harm or injure the victim.

Habit strength, which is also conducive to overt aggressive behavior, is a person's propensity to use aggressive behavior based on his or her history of being reinforced for aggressive acts. The reinforcement can be either extrinsic or intrinsic, and may often be a combination of the two.

Opposing aggressive behavior are internal inhibitions. These may be very pragmatic; the individual may decide that the act of aggression being contemplated has little chance of success and/or that very bad things will happen if the individual attempts to carry it out. Inhibitions may also stem from one's conscience, Superego, culturally transmitted taboos or conditioned inhibitions, depending on one's theoretical frame of reference. The common denominator is the feeling that, whether or not the aggressive act will succeed in its objective, it would be wrong, reprehensible or sinful.

These personal factors, which differ as a function of the nature of the aggressive act in question and the target against which is directed, and which change over time, interact with situational factors that may encourage or inhibit aggressive behavior. The interaction of these factors determine the "response potential" of any given aggressive act directed at any particular target in any given set of circumstances at any particular point in time. In this framework, a potential aggressive response will be blocked or suppressed when the impediments exceed the factors conducive to emitting that response. If the reverse is true and the factors conducive to expressing aggression outweigh the inhibitions, then that particular aggressive response is possible; however, before it is actually performed it must compete with all the other responses that are possible, some of which may be more effective in meeting the individual's needs at that time ("response competition"). The "algebra of aggres-

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sion" stipulates that the act that offers the most satisfaction at the least cost will be selected.

These constructs and this theory guided the design and the analysis of the empirical investigation that was the second major aspect of this research. This consisted of analyzing data from a longitudinal empirical investigation of a cohort of criminal offenders begun in 1970. The present investigation focused on the psychological, social and biological factors that differentiate violent from nonviolent offenders. As part of an earlier NIJ-funded study on the predictability of career criminality, Carbo-nell and Megargee (1984) obtained complete FBI fingerprint arrest records on 947 criminal offenders who had been extensively studied as young adults.

Using the Rap Sheets, the follow-up subjects were classified into Violent and Nonviolent groups based on the NCIC Uniform Offense Codes of the charges that had been filed against them. The "Violent" category was further subdivided into "Angry," "Instrumental," and "Potentially Violent" subgroups on the basis of the charges recorded on the FBI Rap sheets.

Once the subjects were classified on the basis of their criminal histories, the research focused on testing hypotheses derived from the literature regarding the familial, social, psychological, and physiological factors associated with the various types of violent behavior.

For each set of variables, three analyses were performed. The first compared the Nonviolent Offenders, who had never been charged with any sort of violent crime, with all the Violent Offenders; in these analyses, the Violent sample included the Potentially Violent, the Angry, and the Instrumentally Violent offenders. It also included both those who had been charged with but a single violent offense as well as those who had two or more charges.

The second analysis compared the "Angry" with the "Instrumentally Violent" subgroups. No Nonviolent or Potentially Violent subjects were included in these comparisons which were designed to determine if violent offenders differ as a function of apparent motivation.

The third analysis compared the "One Off" or "Single Violent" Offenders, who had one and only one charge for a violent crime recorded in their Rap sheets with the "Repetitively Violent" Offenders who had two or more such charges.

The demographic data showed the research cohort consisted of young adult males, most of whom were single and sentenced for their first adult conviction. The four subsamples (Angry Violent, Instrumentally Violent, Potentially Violent and Nonviolent) did

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not differ significantly in age, marital status, and prior record. The groups did differ significantly in the offenses for which they had been committed to FCI. Since the commitment offenses were used to classify the subjects, these data are, of course, confounded. There were, however, truly significant differences in the racial composition of the samples, the Nonviolent sample having a higher proportion of white subjects than either of the two violent groups.

The familial variables that differentiated the Nonviolent from the Violent Offenders were those reflecting economic deprivation and social deviance and marginality of the developmental family, but in addition to these measures, variables reflecting the adequacy of childrearing differentiated the Single from the Multiply Violent Offenders. No differences were found between Angry and Instrumentally Violent Offenders.

Summarizing the results with regard to cultural values and conformity, overall the Violent Criminals as a group did not differ from the Nonviolent Criminals. Nor did the violent criminals who acted out due to anger differ from the instrumentally violent offenders. However, the Repetitively Violent Offenders were assessed as being significantly less socialized, conforming and responsible than those offenders who were charged with only a single violent offense.

The data regarding the association of violent crimes with mental health measures showed significant differences between Nonviolent and Violent Offenders and between Single and Repetitively Violent offenders on a case history-based measure of Adult Maladjustment and Deviance; the Single and Repetitively Violent Offenders also differed on a case history-based measure of Childhood Maladjustment and Deviance as well as on a number of MMPI scales including the average elevation of the overall MMPI profile. Differences between Angry and Instrumentally Violent Offenders on these measures were minimal.

Replication and extension of a study by Heilbrun (1979) showed that among whites, offenders low in IQ but high in psychopathy, as defined by an index based on the CPI Socialization (So) scale and the MMPI Psychopathic Deviate (Pd) scale, were more prone to Instrumentally Violent or Potentially Violent offenses than were subjects low in IQ but low in psychopathy, or subjects high in IQ and either high or low in psychopathy. Among Blacks, however, it was IQ rather than psychopathy that was associated with violence; ironically, it was the higher IQ Blacks who were more prone to commit Instrumentally Violent offenses. One implication of these findings is that further analyses are needed exploring differences between Blacks and Whites in the factors related to violent crimes. These analyses were also the first indicating that distinguishing Angry, Instrumental and Potential violence may have heuristic value.

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The measures of intellectual and cognitive abilities, achievement orientation and educational accomplishments showed numerous statistically significant differences between the Nonviolent and Violent Offenders as well as between the Single and Repetitively Violent criminals. In these comparisons the Nonviolent and the "One Off" Offenders were consistently assessed as having achieved significantly higher grade levels, and higher General Aptitude Test Battery General Scale scores as well as higher Stanford Achievement Test Median scores. However, there were no differences in Beta IQs, suggesting that the differences lay chiefly verbal skills. In addition, these groups manifested more achievement motivation and fewer problems in behavior and adjustment in the school setting than their counterparts.

For the Nonviolent Offenders, especially, the CPI scales reflecting achievement and intellectual efficiency were also significantly superior to the scores attained by the Violent Offenders, although the means for both groups were below average when compared with national norms. The differences were less pronounced when the Single Violent Offenders were contrasted with the Repetitively Violent Offenders. As usual the differences between the Angry and the Instrumentally Violent Offenders were less apparent, although the latter group was assessed as being better on Highest Grade and Achievement Orientation.

In the investigation of the relation between vocational attitudes and achievement with violent criminal behavior, previous work history as recorded in the Bureau of Prisons forms and work performance within the institution did not differentiate among the various groups. Nor did the attitudes regarding work expressed in the Intake Interviews to the psychologists differ. However, on an MMPI scale reflecting negative work attitudes and on the Presentence Investigation report scale assessing previous employment performance, the Nonviolent Offenders were found to be significantly better than the Violent Offenders; moreover, among the Violent Offenders, those men who had been charged with but a single violent offense in the course of the careers were assessed as youthful offenders as having significantly better work attitudes and employment histories than those who were found on follow-up to have been charged with two or more violent crimes. Angry and Instrumentally Violent Offenders did not differ among themselves on any of the work-related measures.

With regard to interpersonal relations, no differences were found on the personality inventory scales assessing social skills and sensitivities. However, the psychologists rated the Nonviolent Offenders as being more sociable and less constricted than the Violent Offenders, and on the Intake Interview and the PSI the Nonviolent Offenders were assessed as having fewer interpersonal difficulties. The Dormitory Officers also assessed them as being better adjusted and having fewer interpersonal problems

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during the second 90 days of imprisonment.

When the Violent Offenders were subdivided into Angry and Instrumentally Violent groups, once again no differences in interpersonal relations or social skills were noted. However, when they were subdivided into those with Single as opposed to Multiple charges, the "One Off" Violent group was assessed as having fewer interpersonal difficulties than the Multiply Violent Offenders on the Intake Interview and PSI scales as well as on the Interpersonal Adjustment Ratings made by the staff during the second 90 days.

Tuening to hostile and aggressive attitudes and behaviors, 10 of 12 measures studied showed significant differences between the Violent and the Nonviolent offenders, and noteworthy trends were obtained on the remaining two. In the comparisons of the Angry with the Instrumentally Violent Offenders, once again no differences were found. This suggested that either this is not a meaningful distinction, or that offense patterns are too crude a measure of apparent motivation. With regard to the comparison of the Repetitively Violent with the Single Violent Offenders, fewer differences were obtained on the MMPI, but the Repetitively Violent Offenders were assessed as being more aggressive and hostile on the Q-sort and Interview measures. The differences in Institutional Violence fell short of significance.

In summary, a number of statistically significant differences were found between the Violent and Nonviolent Offenders. The vast majority, not surprisingly, favored the Nonviolent. The most noteworthy areas of difference, in terms of the proportion of statistically significant findings, were in the areas of familial deviance, cognitive functioning, educational achievement and aggressive habits and attitudes. The Violent Offenders were also assessed as being less employable and having more difficulties in interpersonal relations than the Nonviolent. The differences in physical and mental health and in socialization and values were much less striking.

The comparisons of the Angry and Instrumentally Violent Offenders yielded about as many "significant" differences as would be expected on the basis of chance. As operationally defined in this study, this variable was not meaningful.

Even more statistically significant differences were found between the Singly and Repetitively Violent Offenders than between the Violent and Nonviolent Offenders. Most favored the Single Violent Offenders. Whereas the Nonviolent and Violent Offenders differed most with respect to familial deviance, cognitive functioning, educational achievement and aggressive habits and attitudes, the Single and Repetitive Violent Offenders were more likely to differ with respect to culture, socialization, and mental health. The differences on educational, cognitive and

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vocational differences were similar, but there were somewhat fewer differences in interpersonal relations and in hostile and aggressive attitudes and patterns.

These data showed that Violent Offenders were more deviant than Nonviolent criminals, and that, within the Violent sample, the Repetitively Violent Offenders were more deviant than those charged with but a single violent offense. The Violent Offenders were also assessed as being less employable and having more difficulties in interpersonal relations than the Nonviolent. The differences in physical and mental health and in socialization and values were much less striking.

Although the data showed that the most violent offenders are more deviant than the less violent and nonviolent offenders, the patterns of variables differentiating the Violent from the Nonviolent Offenders differed somewhat from those discriminating the Repetitively Violent from the Singly Violent Offenders. It appears that instigation to aggression, especially hostility, and aggressive habit strength interacting with situational variables influenced whether or not an offender was ever charged with a violent crime. Repetitive violence, however, was also associated with less adequate socialization and acculturation and more difficulties in adjustment and overall mental health.

Although the family is undeniably important, the present findings also highlighted the role of the school in socialization; whereas all of the subjects in the present sample had been incarcerated for felonies, nevertheless the violent and the repetitively violent had poorer records of achievement and adjustment in school settings. It is possible that failure in school also played a role in fostering the hostile and aggressive behavior patterns that characterized the more violent offenders.

The overall pattern of data suggested that instigation to aggression and habit strength, interacting with situational variables, may be the primary determinants of whether a youthful offender engages in violence, but that measurably deficient controls, values and socialization may be what determines which violent offenders become repetitively violent.

Preface

In this research on violent criminal behavior we have concentrated on two separate but complementary tasks. One, conducted primarily by E. I. Megargee, was to undertake a detailed review of the literature on aggression and violence in the light of his theoretical framework for the analysis of aggressive behavior. This has resulted in two chapters. The first, entitled "Aggression and Violence" (Megargee, 1993) discusses the most recent revision of Megargee's overall theory aggression. The second, entitled "Internal Inhibitions and Controls," (Megargee, in press) focuses on inhibitions which are a central construct in that theory. These reports are summarized in the literature review in the body of this report, and copies of these two chapters are included as appendices to the present report.

The second major task was a longitudinal empirical investigation of the factors associated with various types of violent criminal behavior. This study was the primary responsibility of Joyce L. Carbonell. This research utilized a broad array of data collected on 1345 young adult male offenders admitted to the Federal Correctional Institution in Tallahassee, Florida from 1970 through 1972. These data included structured interviews, psychological tests of personality and ability, behavioral observations, extensive case histories, as well as physiological and medical data.

Part I of the present report attempts to place this research in context by discussing the problem of violence in the United States and some of the methodological problems associated with doing research on violent behavior. Next a summary of Megargee's conceptual framework for studying aggressive behavior is provided, since this theory guided the empirical study. This section concludes with a description of the sampling and data collection procedures used in the empirical investigation.

Part II reports on the empirical investigation. In this section, specific comparisons are made among the different groups on a broad array of factors. After an initial demographic description of the violent and nonviolent samples and subsamples, their family backgrounds are explored, followed by a chapter investigating personal values and socialization. The next two chapters focus on physical and mental health. These are followed by two chapters that explore cognitive abilities and education and vocational attitudes and history respectively. The last two chapters in Part II investigate the groups' social and interpersonal skills and their histories of aggressive behavior and attitudes. Throughout, the data are discussed in terms of their implications for the conceptual framework of aggression presented in Chapter 2.

Chapter 1: Introduction

The Incidence of Criminal Violence in the United States

In 1989, it is estimated that 5.8 million violent crimes were committed in the U. S. (Maguire & Flanagan, 1991). Furthermore, it is estimated that for every violent crime actually committed, two others were attempted (Flanagan & Jamison, 1989, p. 233). If you are living in America, there is an 83% chance that someday you will be the victim of a violent crime such as murder, rape, kidnaping, assault or robbery. What's more, it is not unlikely that you may someday be victimized again (Flanagan & Jamison, 1989, p. 250).

Langan and Innes (1985) reported that six percent of the households in the United States are directly touched by violent crime annually. This statistic, however, includes only those households in which a family member was victimized; it does not include the families of perpetrators, who are also victims when a relative is arrested for committing a crime of violence, nor does it include the impact of highly visible and publicized crimes on the public's sense of security.

Problems in Investigating Criminal Violence

Definitional issues. Despite the frequency with which violence occurs, there are many difficulties in conducting rigorous research in this area. Authorities disagree on both semantic and operational definitions of aggression, violence and criminal violence (Baron, 1977; Buss, 1961; Johnson, 1972; Megargee, 1969, 1982). Intentionality and motivation strongly influence whether people classify injurious behavior as aggression or violence. Some will categorize any infliction of pain by one person on another as aggression; others will rule out "accidents" such as injuries received in an auto accident or instances in which pain was inflicted for the recipient's "own good," such as a parent punishing a child or a dentist drilling a tooth.

If conscious intent to injure is an essential criterion, how should we evaluate the immense literature on aggression using infrahuman subjects? Is aggression confined to vertebrates, or is it aggressive for an amoeba to engulf a paramecium? Rage and predation are mediated by different parts of the brain; should both be regarded as aggression? Similarly, some authorities distinguish agonistic behavior aimed at establishing dominance or protecting territory from "purely aggressive" behavior (Ardrey, 1966; Johnson, 1972; Lorenz, 1966; Tinbergen, 1953; 1968).

Some behaviorists attempt to finesse such fuzzy concepts as intentionality by defining aggression as behavior that "delivers noxious stimuli to another organism" (Buss, 1961). But what about behavior that is clearly aimed at inflicting injury and

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fails in its objective? How should we classify behaviors directed at things rather than organisms? Is arson nonaggressive if no one is injured? And what about verbal attacks or indirect aggression, such as spreading malicious gossip? (Buss, 1990). Still another issue, especially relevant in criminal cases, concerns whether the victim desired, or at least acquiesced to, the noxious stimulation or injury.

The study of criminal violence is further complicated by laws which permit aggressive behavior under some circumstances, such as legally authorized executions or acts of war. Researchers who exclude legally permitted behavior, must consider how legal definitions differ from one jurisdiction to the next, or how they change over time, as in the case of dueling.

These definitional questions are important. To the extent that psychology is scientific, our knowledge and understanding of aggressive behavior and violence comes from our observations of these behaviors and the creatures, animal and human, who engage in them. If we cannot agree on what behaviors we will classify as aggressive, then our observations will differ, and, even though we may be using the same terms, we may be studying and analyzing different phenomena.

Methodological and ethical considerations. The definitional issues listed above have direct implications for how we conduct our research. If only humans can engage in violence, by definition, then animal research is excluded.

Ethical concerns are omnipresent. Experimentation is agreed to be the only sure way to determine cause and effect relationships, however, experiments inciting people to violence are usually unethical. Naturalistic observations of violent behavior could be used, but in most circumstances observers are obliged to intervene in some fashion before mayhem results. Sherif & Sherif (1953), studying the effects of frustration and competition among boys in a summer camp, had to halt their study when fighting among the subjects got out of hand.

In our research, we have chosen to study the characteristics of people who have engaged in criminal violence. While this method avoids some ethical problems, it, too, has its drawbacks. By focusing on violent individuals, we are apt to overlook the fact that it takes two people for a violent act to occur. In our research we remain ignorant of the degree to which the victim and other situational factors may have contributed to our subject's violent behavior. Moreover, we are not studying our subjects while they are actually engaging in violence. To the extent that they change, perhaps as a result of the violence or the legal consequences that ensue, we may be obtaining a distorted picture of the violent individual.

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Oversimplification. Many researchers and theorists on aggression and violence tend to oversimplify the factors involved in aggressive behavior and violence. In the 1960s, authorities such as Berkowitz (1962) and Buss (1961) agreed that violent criminals were all characterized by excessive anger or hostility and inadequate inhibitions or controls...in short that they were "all id with no lid." Now we realize that there are at least six modal types of violent individuals that are consistently described in the literature from a variety of disciplines. These include:

(1) normal individuals driven to violence by severe situational circumstances, sometimes exacerbated by alcohol;

(2) people whose violent behavior stems from severe psychopathology, including functional and organic psychoses;

(3) individuals committed to an aggressive lifestyle or socialized in a subculture in which violence is a normal way of life or an expected response in certain circumstances;

(4) people who employ violence as a means to accomplish certain extrinsic ends, such as financial gain, political change, sexual gratification, or social status, or who engage in violence as a necessary part of their jobs;

(5) those whose violence stems from chronic feelings of anger, rage, hostility, or hatred induced by oppression, abuse, frustration and the like; and

(6) individuals whose violent behavior paradoxically stems from excessive inhibitions and controls (Megargee, 1966; 1982).

These varied types demonstrate the complexity of the factors that interact to determine whether or not a person commits an act of criminal violence, or any other aggressive act, in response to a particular set of circumstances at a given time and place. Over the years, Megargee (1982, 1984) developed a conceptual framework to assist in understanding theories and research on aggression and violence. This system was further refined and explicated during the period covered by the present grant, especially with respect to the analysis of the factors involved in internal inhibitions and controls. An overview of this approach will be presented in the next section.

Chapter 2:

A Conceptual Framework for Analyzing Aggressive Behavior

Most human behavior, including aggression, is performed on a fairly routine basis. As response follows response in a smooth-flowing, often automatic sequence, it is easy to lose sight of its complex determinants. However, if we "stop the action" and analyze a single response, we become aware that each act is the result of the interaction of many factors and dozens of unconscious choices.

In most situations, an individual can make any one of a number of different responses. People who are threatened can fight, run away, or attempt to make some conciliatory gesture. If they choose to attack, they can do so verbally or physically, with vigor or with restraint, within certain limits or with no holds barred. Their aggressive behavior can be directed at those who aroused their ire or can be displaced to other targets. How is the choice made? Typically, a person selects the response that appears to offer the maximum satisfactions and the minimum dissatisfactions in that particular situation.

This simple statement conceals a rapid but extremely complex internal bargaining process in which the capacity of a given response to fulfill many different drives and motives is weighed against the pain that might result from that response, as well as from the postponement of the satisfaction of other competing drives. Flight might best satisfy an individual's need for safety, but at the expense of humiliation for what might be regarded as cowardly behavior. Attack might satisfy a person's aggressive needs, but at the expense of personal injury. By means of this "internal algebra," the net strength of each possible response is calculated and compared with all other responses, and the strongest one is selected (Megargee, 1969, 1972, 1982).

What determines the net strength of a potential response? In the case of an aggressive or violent response, we can isolate several broad factors that interact to determine response strength. The first of these is instigation to aggression. Instigation to aggression is the sum of all the forces that motivate an individual to commit a violent or aggressive act. It includes both intrinsic ("angry") instigation, which is the conscious or unconscious wish to harm the victim in some fashion, and extrinsic ("instrumental") instigation which is the yearning for other desirable outcomes which the aggressive act in question might accomplish, such as economic gain in the case of a robbery or perceived political benefits from an act of terrorism.

The second major variable is habit strength, the extent to which the response has been rewarded or punished in the past.

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Other things being equal (which they rarely are), the more often a given aggressive act directed at a particular target has been successful in the past, or the more one has observed people aggressing successfully, the more likely one is to aggress in the future. Habit strength is especially relevant in the case of extrinsic or instrumental aggression.

Instigation to aggression and habit strength both motivate people toward aggression. What stops them? Opposing the motivational factors is the third set of variables, namely inhibitions against aggression. They include all the reasons why a person would refrain from a particular aggressive act directed at a particular target. Included are both moral prohibitions which classify the particular act as wrong and practical considerations, such as fear of retaliation or the possibility the act may fail in its objective. Inhibitions can be general or specific and can vary as a function of the act, the target, and the circumstances.

Instigation, habit strength, and inhibitions are all personal characteristics, but behavior results from individuals interacting with their milieus. The fourth class of variables, situational factors, encompasses those external factors that may facilitate or impede aggressive behavior. Since the present study investigated the characteristics of violent criminals, situational factors were not studied, but their influence should not be overlooked. One effect will be to establish an upper limit to the association between violent behavior and any personality factor.

Reaction potential, the fifth and last major construct, consists of the net strength of a given response after the inhibitory factors have been balanced against the excitatory ones. A response will be blocked and cannot occur whenever the inhibitions exceed the instigation. A response is possible (i.e., has a positive reaction potential) if the forces favoring the aggressive response exceed those opposing it. However, all the possible responses must first compete with one another; the one with the highest reaction potential--that is, the greatest capacity to satisfy the most needs at the least cost--should be chosen.

In the pages that follow, each of these constructs will be discussed in greater detail. Specifically, some of the factors that have been found to influence these variables will be described.

Instigation to Aggression

As noted above, instigation to aggression refers to all those factors that motivate an organism to behave aggressively. In our theoretical framework, we first examine the sources, both physiological and psychological, of aggressive instigation. Next,

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we consider what happens to aggressive instigation once it has been aroused.

Sources of Instigation. Instigation to aggression has both physiological and "psychological" sources. Among the physiological factors that have been identified are 1) heredity, 2) CNS pathology, 3) endocrinological influences, 4) neurotransmitters, 5) physical illness, 6) toxic factors and drugs, 7) fatigue, and 8) generalized arousal. These are discussed in greater detail in the appendices.

It is possible to differentiate two broad categories of psychological motivation for aggressive behavior. The first is extrinsic or, to use Buss's (1961) term, "instrumental" motivation. In extrinsic motivation, injuring the target is secondary. The primary goal is to accomplish some other end, such as acquiring money, achieving dominance, or simply doing one's job. Aggressive behavior is the instrument for achieving that extrinsic goal. As Al Capone once said, "You can get much farther with a kind word and a gun than you can with a kind word alone" (quoted by Peter, 1977, p. 141). Extrinsic factors can motivate legal, as well as illegal, aggression and violence. Police officers, correctional officers, military personnel, and athletes are among those who are most frequently called on to engage in physical aggression as part of their professional responsibilities.

The second type is intrinsic or "angry" motivation, in which injury to the victim is the primary goal, and any other benefits are secondary. Intrinsic motivation can be mild or intense, relatively brief or long-lasting. In the English lexicon, we use different words to make these distinctions: anger refers to moderate, short-lived instigation, hostility to moderate, long-lasting instigation, rage to extreme, short-lived instigation, and hatred to intense, long-lasting instigation.

The most frequently cited cause of instigation to aggression is frustration (Dollard, Doob, Miller, Mowrer, & Sears, 1939), operationally defined as interference with an ongoing goal response. Extensive research over the past half century has established that the amount of anger aroused by frustration varies as a function of 1) the strength of the frustrated drive, 2) the degree of interference with the goal response, 3) the number of frustrated response sequences, and 4) the arbitrariness of the frustration (Dollard et al., 1939; Pastore, 1952). Moreover, instigation from several different sources of frustration can add together, or summate, and reminiscence can serve to rearouse anger long after the frustration has occurred.

In addition to frustration, the writer includes physical or verbal attacks and territorial intrusions (Ardrey, 1966) among the psychological factors arousing anger, along with jealousy and revenge. Others disagree, however, and regard frustration as the

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only source of instigation to aggression.

Dissipation of Instigation to Aggression. It is as important to assess how an individual deals with anger, rage, hostility, hatred, and instrumentally-induced instigation to aggression as it is to ascertain the sources of these motives. How are these drives expressed? What mechanisms are used to dissipate instigation? How successful are they? Once aroused, how long does this person's instigation remain active, and how easily is it rearoused?

Extrinsic instigation to aggression should be dissipated by achieving the desired goal. The most obvious way to dissipate or reduce angry instigation is through aggressive behavior, or catharsis (Feshbach, 1984; Geen & Quanty, 1977). However, such direct satisfaction of an aggressive drive is not always possible. In such cases, various substitutive mechanisms may be used to dissipate some of the anger or hostility. These include displacement, response substitution, and vicarious aggression. Cognitive redefinition and humor can also dissipate instigation. Although all these mechanisms for the dissipation of aggressive instigation are firmly rooted in psychological theory, their evidential basis is less secure, perhaps applying only to certain types of aggression or in certain circumstances more than others (Feshbach, 1984; Hokanson, 1970).

Habit Strength

Habit strength, the degree to which an individual has been reinforced for aggressive behavior or violence in the past, is the second major factor to consider. Other things being equal, the more an individual has aggressed successfully in the past, the more likely it is that person will choose an aggressive response in the future.

Sources of Habit Strength. The acquisition of habit strength follows the basic principles of operant learning. Extrinsically motivated aggressive responses are reinforced by the attainment of the desired goal; intrinsic responses by the injury, physical or psychological, to the victim. Unanticipated secondary rewards may also be experienced such as thrills, feelings of power or status accorded by others.

Habit strength is probably acquired most effectively through direct experience, but it can also be obtained indirectly through observation or imitation (Bandura, 1981; Huesmann & Eron, 1984; Huesmann, 1988). Violent motion pictures and television shows may teach aggressive habits (Eron & Huesmann, 1986; Geen, 1976; 1983).

Decreasing Aggressive Habit Strength. Once acquired, habits are difficult to eliminate. Extinction, the repeated performance

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of a an aggressive response in the absence of any reinforcement, is the only sure way to eradicate an aggressive habit, but, from a practical standpoint, this is virtually impossible. There is simply too much reinforcement for aggression in our culture, and angry aggression is immediately rewarded by the injury to the victim. While punishment may suppress aggressive behavior, it does not appear to diminish habit strength significantly.

Inhibitions Against Aggression

Inhibitions against aggression refer to all those factors that may operate to impede, oppose, or block an aggressive act. Internal inhibitions, or taboos, include learned moral injunctions that stipulate that aggression in general is wrong, that particular aggressive acts are forbidden, or that aggressive acts directed at certain individuals or under certain circumstances are reprehensible. In addition, aggressive behavior is also inhibited by external, pragmatic concerns. These include the perception that the aggressive act is likely to fail in its purpose or that bad things may happen to the aggressor.

Sources of Inhibitions. As with instigation, both physiological and psychological causes of inhibitions have been discussed in the literature. However, there has been much less research on inhibitions than on instigation, partly because of some unavoidable methodological and conceptual difficulties (See Appendix B.)

Physiological sources of inhibitions include 1) heredity, 2) inhibitory centers in the central nervous system, 3) the effects of certain neurotransmitters such as serotonin, 4) chemical factors, including certain psychotropic medications, 5) and physical illness that might prevent a person from carrying out an aggressive act.

Psychological sources of inhibitions include anticipated adverse consequences such as punishment, introjected moral values and attitudes, and empathy or compassion for the potential victim. Both physiological and psychological sources are discussed in detail in Appendix B.

Factors decreasing inhibitions. For internal inhibitions against aggression to operate, three things must occur. First, at some point in his or her development, a person must have learned and adopted a rule to the effect that one should not engage in the aggressive behavior that he or she is tempted to perform. Second, the individual must classify the proposed behavior as belonging to that class of acts that is prohibited. If the first two conditions apply, then the individual must decide whether or not to abide by the rules. Unfortunately, there are more ways to diminish or circumvent inhibitions against aggression than there are to foster them. These include both physiological and psychological mechanisms.

Chapter 2: Conceptual Framework

Physiological factors include injuries or diseases affecting the central nervous system, especially temporal lobe lesions and injuries to the hypothalamus and amygdala (Mark and Ervin, 1970), as well as impaired functioning of the neocortex resulting from developmental deficits, anoxia, fever, malnutrition, disease, toxins, tumors and traumas (Buikhuisen, 1987; Nachshon & Denno, 1987). Endocrinological disorders and hormones such as testosterone can also lower our inhibitions and make us more impulsive (Brain & Benton, 1981; Moyer, 1976). Certain psychotropic medications have the effect of chemically increasing patients' inhibitions. If these medications are discontinued, inhibitions would be expected to revert to their usual level. Other chemical substances, most notably alcohol, have a disinhibiting effect, especially when it comes to aggressive behavior (Bushman & Cooper, 1990).

Psychological factors that can decrease inhibitions abound. If children's basic needs for nurturance and discipline are not met, or if they are not provided with consistent, socially appropriate role models exemplifying the culture's values, they may develop deficient, deviant or conflicting values ((Becker, 1964; Cloward & Ohlin, 1960; Garfinkel, 1956; Glueck & Glueck, 1950; Lemert, 1967; McCord & McCord, 1959; Megargee, Parker, & Levine, 1971; Merton, 1938; 1957; Nye, 1958; Rosenquist & Megargee, 1969; Sellin, 1938; Sutherland, 1939; Wilson & Herrnstein, 1985; Wolfgang & Ferracuti, 1967).

Earlier we noted that engaging in aggressive behavior or observing others aggress, either directly or in the media, can serve to increase habit strength. If such direct or vicarious aggression is reinforced rather than punished, it can also serve to diminish inhibitions or fears of performing taboo aggressive acts (Parke et al., 1977).

Inhibitions can also be subverted by rationalization, neutralization (Sykes & Matza, 1957) and the juxtaposition of conflicting values (Merton, 1938; 1957), all of which help us convince our selves that this particular situation is an exception to the general rule and the usual moral prohibitions therefore do not apply. Finally, anything that differentiates or dehumanizes the potential victim can decrease the empathy or compassion an aggressor might feel (Prentice-Dunn & Rogers, 1983).

Strong inhibitions against aggression do not necessarily rule out the possibility of assaultive behavior or violence. Some extremely assaultive people are paradoxically characterized by massive inhibitions against the overt expression of hostility or aggression. In the "chronically overcontrolled assaultive type" (Megargee, 1966), instigation can accumulate to the point where it overwhelms even massive inhibitions so that homicidal violence results.

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Situational Factors Influencing Aggression and Violence

In discussing the situational factors related to aggressive behavior, Monahan and Klassen (1982, pp. 301-306) singled out the family environment, the peer environment, and the job environment for special discussion, along with the availability of alcohol, potential victims and weapons. Other authorities have examined broader influences such as ambient temperature (Baron & Ransberger, 1978; Megargee, 1977) and architectural design (Newman, 1972). Other important factors include the behavior of antagonists or victims, the behavior of associates and bystanders, access to victims, crowding, and the presence of weapons.

Situational factors such as these can operate to facilitate aggression or to impede it. To the extent that situational factors interact with personal factors to influence aggressive behavior, one effect will be to limit the strength of associations between personality factors and violence. The reason Arthur Bremer shot George Wallace instead of Richard Nixon was because he was able to get closer to Wallace than he had to Nixon. In investigating the biopsychosocial factors that characterize people who have been violent, we may find some statistically significant associations, but we will remain cognizant of the fact that situational factors determine much of the variance.

Reaction Potential and Response Competition

The relative strength of the instigation, habit-strength, and situational factors facilitating the expression of aggression, on the one hand, and the inhibitions and situational factors impeding aggression, on the other, determines the reaction potential of every possible aggressive response directed at every available target at any given time. If inhibitions exceed instigation, the response will be blocked or suppressed. If instigation exceeds inhibitions, then that response is possible.

However, at any given moment a range of responses, both aggressive and nonaggressive, may be possible. According to the conceptual framework presented in this chapter, the response that has the capacity to satisfy the most needs at the least cost will be selected, although again it must be emphasized that these are rarely consciously thought out, rationally considered, decisions. Often these choices are made so rapidly and spontaneously that the individual is unaware of the response competition that we have postulated. Like situational factors, response competition can serve to attenuate the relationship between measurable personality and demographic variables and an individual's history of violent behavior.

Chapter 3: Rationale and Overall Methodology

This investigation was designed to use data already collected as part of a longitudinal research project to investigate the factors that differentiate certain types of violent criminals from other, nonviolent, offenders. It focused on testing hypotheses derived from the literature regarding the familial, social, psychological and physiological causes of violent behavior.

Rationale

Since Cain slew Abel in the first recorded case of intrafamilial violence, there have been numerous theories as to the causes of violent behavior (Megargee, 1969). There have also been many empirical studies. Unfortunately, too few of the theoretical propositions have been tested empirically, and too few of the empirical studies have been guided by theory.

Another problem that has hindered our understanding of violent behavior is that researchers have too often regarded violence as a unidimensional phenomenon and implicitly treated violent subjects as if they constituted a homogeneous group. Instead, as noted in Chapter 1, no less than six different types of violent individuals have consistently been described by authorities from different disciplines who were writing about a varied panorama of violent offenses (Megargee, 1982). Each of these types is characterized by a combination of instigation, inhibitions, habit strength and situational influences.

The goal of the present study was to use the theoretical model presented in the preceding section to guide an interrelated set of empirical studies on the physical, psychological, social and cultural characteristics of violent criminal offenders using our extraordinarily extensive longitudinal data base. In this research, violent offenders were not treated as a homogeneous group; offenders who had engaged in "angry aggression," in which the apparent goal was to injure the victim, were differentiated from offenders who had engaged in "instrumental aggression," in which the aggressive behavior was a means to an end as in robbery, and from those who had apparently been potentially violent, as evidenced by making threats or carrying weapons but who were never accused of any violent offenses. These groups were compared with one another and with the nonviolent offenders who had never been charged with violent criminal behavior.

The population of violent offenders was also subdivided into those who had been repetitively violent and those who had been charged with but a single violent offense. Although admittedly crude and subject to all the shortcomings of data based on official records, it was felt these distinctions would provide

Chapter 3: Rationale and Methodology

some indication of the robustness of certain factors by showing whether they apply universally to all violent (as opposed to nonviolent) criminal offenders, or instead characterize only a subset of violent criminals.

General Methodology and Description of the Available Data

The data for this study were collected as part of a larger longitudinal study of 1,345 youthful offenders consecutively admitted to the Federal Correctional Institution (FCI) at Tallahassee, Florida during a two-year period from November 3, 1970 to November 2, 1972. After an initial evaluation period, their progress and behavior was recorded until they left the institution or until July 1, 1971, whichever came first. Follow-ups using FBI fingerprint arrest records ("Rap Sheets") were conducted in 1976 and 1984.

Setting

At the time these data were collected, the FCI was a medium security institution for young adult male offenders aged 18 to 27, although a few as young as 17 and as old as 32 were admitted. During this period the population ranged from about 520 to 630 men with a mean census of 558.

Opened in 1938, the institution was surrounded by two high fences enclosing 21 acres. At the time of the study, there were towers manned by armed guards at the four corners of the perimeter. Most of the men were housed in four open single bunk dormitories.

Population and Sampling

Initial cohort. The 1,345 men in the overall research cohort had a mean age of 22.5 at the time of intake; their ages at that time ranged from 18 through 27. (A few subjects outside this range were admitted, but most were soon transferred.) At the time of the follow-up in 1984, their ages ranged from 31 to 40 with a mode of 36. With regard to ethnicity, 64 percent were white, 35 percent were black and 1 percent were American Indians; 56 percent were single, 26 percent were married, 14 percent were divorced or separated, 4 percent lived in common-law arrangements and one subject was a widower.

The vast majority were sentenced for crimes against property, typically interstate transportation of a stolen motor vehicle. Although the modal sentence was a zero to six year indeterminate sentence ("zip-six") under the Youth Corrections Act, the average amount of time served was about 15 1/2 months (Elion & Megargee, 1979).

According to the official Bureau of Prisons (BOP) data

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sheets, their age at first arrest ranged from 6 to 26 with a mean of 16.8. The mean number of prior arrests was 7.3; 498 of the youths (37%) had previous confinements of six months or more after the age of 18, and 247 (18%) had two or more such previous imprisonments.

A broad geographic range was included. Although the research subjects were primarily from the Southeastern United States, 31 different states were represented as well as the District of Columbia, Puerto Rico, the Panama Canal Zone and Virgin Islands.

Follow-Up sample. The follow-up data were collected in conjunction with an investigation of the early identification of career criminality (Carbonell & Megargee, 1984). In that study, official records were obtained from the Federal Bureau of Investigation (FBI), by the Research Division of the Federal Bureau of Prisons (BOP) and made available to the present investigators by the latter agency.

The Research Staff of the BOP requested that subject lists be prepared using name, BOP number, birthdate and, when available, FBI numbers and identifiers. In December, 1982, two such lists were prepared to these specifications and sent to the BOP, one for the 1,018 subjects for whom we had an FBI number and the other for 327 subjects whose FBI number, if any, was unknown.

Data started arriving from the FBI via the BOP in small batches in early 1983. By July, 1983, 495 records had been received and in September, 1983, the last records retrieved were obtained bringing the total number of subjects with follow-up data to 952 of 71 percent of the total cohort. Five subjects were reported to have died leaving 947 usable records. The 952, for whom we obtained Rap Sheets, consisted of 930 of the 1,018 subjects for whom we could provide FBI numbers (91%) and only 22 of the 327 subjects without FBI number (7%).

The demographic characteristics of the follow-up sample are presented in Tables 3-1 and 3-2 along with those of the missing cases. (To facilitate comparisons, all tables are presented at the end of each chapter.) The cases for whom follow-up data were obtained were slightly older, had more prior offenses, served more days and were slightly lower in the highest grade attended. With regard to marital status, the follow-up subject were less likely to be single or married and more likely to be divorced, separated or widowed. Although the absolute magnitudes of these differences were small, given the large sample sizes they were statistically significant. There were no significant differences in Beta IQ or racial composition.

These differences suggest that the follow-up sample consisted of the more serious offenders in the original cohort. This is

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consistent with the fact that data were received on most of the cohort had FBI numbers and were the easiest to retrieve, whereas, the more difficult-to-locate cases without FBI numbers were much more likely to be omitted. It seems reasonable to suppose that FBI numbers would be more systematically recorded on more serious offenders, such as bank robbers, than on the less serious criminals such as Selective Service violators. The net result of this bias is that there may be a higher proportion of violent offenders in our sample than in the cohort as a whole. However, the investigation of the differences among these groups should not be influenced by this bias.

Classification of the follow-up sample. Using the Rap Sheets, the follow-up subjects were classified into Violent, Potentially Violent and Nonviolent groups based on the NCIC Uniform Offense Codes of the charges that had been filed against them. The Violent sample consisted of all those subjects whose Rap Sheet had any officially recorded charge for a crime of violence. The following offenses were operationally defined as violent for the purpose of this investigation:

1. All forms of homicide (NCIC Codes 0901 - 0912),
2. All forms of kidnaping (NCIC Codes 1001 - 1009),
3. All forms of sexual assault, (NCIC Codes 1101 - 1109),
4. Sabotage (NCIC Code 0104),
5. All forms of robbery (NCIC Codes 1201 - 1211),
6. All forms of assault (NCIC Codes 1301 - 1316),
7. Those forms of arson which endangered life (NCIC Codes 2001, 2002, and 2008) or which damaged business, residential or public property (NCIC Codes 2005, 2006, and 2009),
8. Those forms of extortion involving threats of injury (2101) or property damage (2102),
9. Those forms of property damage involving the use of explosives (NCIC Codes 2904 - 2906),
10. Those weapons offenses involving the use of explosives or incendiary devices (NCIC Codes 5206 and 5208),
11. Certain forms of rioting (NCIC Codes 5302 - 5305),
and
12. Traffic offenses involving hit and run driving (NCIC Code 5401).

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Any offender who had been charged at any time during his criminal career with one or more of these offenses was classified as "Violent."

The "Violent" category was subdivided into "Angry" and "Instrumental" subgroups on the basis of the charges recorded on the FBI Rap Sheets. Offenses in which violence or the threat of violence is typically used to secure money or some other extrinsic goal were regarded as "Instrumental." Among the violent offenses we regarded as "Instrumental" were robbery, kidnaping for ransom, forcible purse snatching, and extortion with violence.

All other violent charges were classified as intrinsic or "angry" acts since the apparent goal was to harm the victim. Those individuals who had both types of offenses were classified as belonging to the "Angry" group. This was done even if their extrinsic or instrumental offenses outnumbered their intrinsic or angry offenses. Thus, a person who had three arrests for robbery and only one for homicide was nevertheless classified into the "Angry Aggression" subgroup.

In addition to those subjects who had been charged with a violent offense, a group of "Potentially Violent" subjects was identified. An offender with no charges for any of the violent offenses listed above was classified as Potentially Violent if he had an arrest for an offense such as extortion without violence, threatening the President or other public officials, carrying a concealed weapon, or possession (as opposed to use) of illegal weapons such as bombs, military weapons or sawed-off shotguns.

"Nonviolent" offenders were individuals who had never been charged at any time with any of these potentially violent or actually violent offenses. The number of subjects falling into these various categories is reported in Table 3-3.

Coding of Violent Offenses. The violent offenses, which were obtained directly from F.B.I. arrest records, or Rap Sheets, were coded along several dimensions, specifically type of violence committed, number of violent offenses, and whether or not a violent charge resulted in a conviction. Begault (1990, pp. 65 - 69), who was the graduate student who participated in the coding of the offenses, described the process in detail in her Master's thesis (which is included as Appendix C of the present Report):

Two undergraduate assistants and one graduate student participated in the coding of violent offenses. Three roles were thus assigned, that of Rater 1, Rater 2, and Mediator. A system of rating was implemented in which three rating groups were established, Groups A, B and C, wherein each coder held a different position, Rater 1, Rater 2 or Mediator, so that the chores of

each role were equally distributed among the coders.

Before the actual coding of the violence data began, the raters/mediators were shown how to score the rating sheets, and they practiced rating 70 randomly selected Rap Sheets on the previously mentioned criteria (type of violence committed, number of violent offenses, and whether or not a violent charge led to a conviction).

During the practice proceedings, the raters/mediators were able to discuss their ratings with the other raters/mediators, as well as their reasons for deciding to rate an item a certain way. The purpose for these pilot ratings was to assure that the raters/mediators received adequate and uniform training, and to assure that their interrater agreement reached an acceptable level of accuracy before beginning the coding process. After 70 practice ratings, the coders achieved an overall interrater reliability coefficient of .80 for violent and nonviolent offenses combined.

The pilot rating forms were not used in the data analysis. However, the 70 Rap Sheets used in the pilot ratings were returned to their appropriate places in the files, to be included later in the actual coding process.

After the 70 practice trials, the raters/mediators began the coding process. The three roles of Rater 1, Rater 2 and Mediator were outlined as follows: Rater 1 coded the violent offenses on 10 - 20 Rap Sheets, and then gave the stack of Rap Sheets to Rater 2; but passed his/her rating sheets to the Mediator, so that Rater 2 was not aware of what Rater 1 recorded. Rater 2 independently coded the violent offenses on these same Rap Sheets, then gave both the Rap Sheets and his/her rating sheets to the Mediator. At that time, the Mediator compared the two raters' findings for each Rap Sheet.

A copy of the rating sheet is provided in Appendix B (of Begault's thesis which is included as Appendix C of this Report). The first question on the rating sheet was, "Are there any offenses which are violent or potentially violent?". If there were no violent offenses listed on the Rap Sheet, then the rater simply circled the answer "No," and continued no further. If, however, there were violent or potentially violent offenses listed on the Rap Sheet, then the rater circled "Yes," and proceeded. After it was determined that a Rap Sheet contained at least one violent of-

fense, the rater then recorded the last date of information recorded on each violent offense listed on the Rap Sheet, along with information concerning whether or not a conviction was reached for that offense, and the type of violence with which the offender was charged, and b) the type of violence (if any) included in the conviction. Nonviolent offenses were not recorded.

For each violent charge on which the raters reached 100% agreement on all indices (presence of violence, type of violence and conviction) the mediator simply copied the identical charge onto a separate rating sheet without referring to the Rap Sheet. For charges on which there was at least one discrepancy, the mediator compared the raters' decisions to the original Rap Sheet and either agreed with one or the other rater, or came to an independent decision regarding the discrepancy.

Interrater Reliability Ratings on the Coding of Violent Offenses. The first step in computing interrater reliability coefficients on the coded violence data was to determine which offenses were the sources of disagreement between raters. There were five dimensions on which the raters could have disagreed: overall presence or absence of violent offenses, number of violent offenses, type of violence for each offense, last date of information recorded on each offense, and whether or not a violent charge led to a conviction. Thus, five separate interrater reliability coefficients were reported. All reliability coefficients were computed with the simple percentage equation:

Number of Violent Offenses on which Both Raters Agreed: Total Number of Violent Offenses. First, interrater reliability coefficients on overall violence ratings were calculated. Subjects who had committed at least one violent offense were classified as violent offenders, whereas, subjects who had not committed any violent offenses were classified as nonviolent. Out of 952 subjects, the raters only disagreed on the violence/nonviolence of an offender in the cases of three offenders, thus achieving an interrater reliability of 99.78%.

Next, the interrater reliability ratings on the number of violent offenses per subject were calculated. The raters agreed on the number of violent offenses committed by an offender 88.25% of the time. Regarding type of violence, the raters agreed as to whether an offense was angrily violent, instrumentally violent, or potentially violent 94.98% of the time. The raters

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reached agreement concerning whether or not a violent charge received a conviction in 94.39% of the cases, and they agreed on the last date of information recorded on a violent offense in 95.51% of the cases Begault (1990, pp. 65-69).

Data Collection

Procedures. During the first four weeks after entry, all inmates were housed in a separate Admissions and Orientation Unit prior to classification. During this period the inmates were not assigned to permanent jobs or programs so their time was free for interviews and testing prior to classification. All test and interview data were made available to the classification team and the inmates were told that this information would be used in planning their programs. Therefore, our results should be directly generalizable to applied correctional settings, unlike studies in which prisoners are assured the results of the testing will be confidential.

During the first two weeks after admission, each inmate was administered an extensive battery of tests by the research project staff. Ability, interest and achievement measures included the General Aptitude Test Battery (GATB), the Revised Beta Intelligence Test, the Stanford Achievement Test (SAT), and the Minnesota Vocational Interest Inventory (MVII). Personality assessment devices included the Minnesota Multiphasic Personality Inventory (MMPI), the California Psychological Inventory (CPI), the State-Trait Anxiety Inventory (STAI), the Gough-Heilbrun Adjective Checklist (ACL), Quay and Peterson's Personal Opinion Study (POS), the Interpersonal Personality Inventory (IPI), Itkin's (1952) Attitudes Towards Parents scales, and Young's (1975) Prisonization questionnaire based on Wheeler's research.

The two primary instruments utilized in the present study were the MMPI and the CPI. Entering inmates began the testing program with the MMPI, which was administered on the first Monday after their first Wednesday at the FCI, and ended it with the CPI on the Thursday of the following week. By the time they took the CPI their motivation had flagged considerably, and the resemblance of the CPI to the MMPI, with 180 common items, led to a higher rate of invalid or nonresponsive answering on the CPI.

Because the MMPI was required by the Bureau of Prisons, the staff went to great lengths to obtain valid MMPIS on all subjects. Spanish and tape-recorded MMPIS were administered and the examiner checked for random responding by asking subjects how they had responded to six randomly selected items. Those unable to recall were retested. These procedures were not employed with the CPI.

The MMPI and the CPI were scored on all the regular scales

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and on a number of special scales relevant to criminal and delinquent traits and behavior patterns. All scores were converted to T scores using adult male norms and the usual K corrections were applied in computing the T scores on the MMPI. All profiles were screened for nonresponsive or random responding. In the case of the CPI, 242 profiles with a T score less than or equal to 30 on the Communality (Cm) scale were excluded (Gough, 1957; Megargee, 1972). In the case of the MMPI, random responding was indicated by an elevated Frequency (F) scale score ($T > 100$). Such MMPI profiles were then clinically inspected and 38 profiles that approximated the mean random profile (Dahlstrom, Welsh & Dahlstrom, 1972) or on which the patterns of scales did not make good clinical sense were rejected. Although he noted this approach required expertise with the MMPI, Gearing (1979), while reviewing the literature of the use of the MMPI in prison settings, stated, "This approach was the best one encountered by this author" (p. 940).

As part of the classification process, each inmate's case-worker filled out a series of standard Bureau of Prisons forms recording the results of the medical, educational and psychological evaluations, as well as salient aspects of the case and criminal history. Copies of these BOP forms were made available to the project. The variables recorded from these forms which were used in the present project were:

1. Date of birth,
2. Date of entry (used to compute age upon entry),
3. Race,
4. State of residence,
5. Marital status,
6. Age at first arrest,
7. Number of prior adult convictions,
8. Commitment offense(s),
9. Highest school grade completed,
10. Drug dependency, and
11. Alcoholism.

The investigators also obtained copies of each offender's Presentence Investigation Report (PSIs) that had been prepared by the Federal Probation Officer. The uniform PSI outline adopted by

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the Judicial Conference Committee on the Administration of the Probation System on January 11, 1965, included fifteen headings which the probation officer was supposed to follow in sequence:

1. Offense, official version,
2. Offense, defendant's version,
3. Prior record,
4. Family history,
5. Marital history,
6. Home and neighborhood,
7. Education,
8. Religion,
9. Interests and leisure-time activities,
10. Health,
11. Employment,
12. Military service,
13. Financial condition,
14. Evaluative summary and
15. Recommendation.

From this outline, and from a preliminary study of a number of PSIs, Megargee and his associates devised a series of scales to quantify the PSI data (Megargee and Hokanson, 1975). Each PSI was rated independently by two trained raters. At the outset the three individuals doing ratings all rated the same PSIs, discussing any discrepancies, until they had achieved what they felt was a satisfactory degree of inter-rater reliability. Raters who were subsequently appointed were trained by raters already on the job, re-rating already coded PSIs until their ratings agreed with those of the more experienced individuals. Over 150 discrete items were coded from the PSIs.

Next, the ratings of the two independent raters were combined to increase the reliability. Frequency distributions were calculated on all the items. Finally, global scales assessing broad dimensions were constructed from weighted combinations of these discrete items based on their manifest content and frequen-

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cy of occurrence. A list of these overall PSI scales can be found in Table 3-4.

In the third week, an hour-long structured interview was administered to each inmate by his team psychologist. The interview was designed to compliment rather than duplicate the case history information obtained from the PSI. Since the PSIs focused on the "facts," such as the schools attended or jobs held, the intake interview dealt more with behavior and incidents in these settings and attitudes towards other people such as teachers or employers. It inquired in a systematic fashion about the nature and characteristics of the developmental family and the child's development, focusing especially on parent-child interactions and child-rearing practices. It then went on to inquire about the inmate's own marriage, if relevant. The interview then turned to the inmate's educational history and attitudes, his work history and attitudes, and his attitudes toward sex. If the man had been in the armed forces, information was obtained regarding military service and attitudes. Next, the inmate's self-reported use of alcohol and other substances was ascertained. The interview was concluded by obtaining data on religious preferences and practices, the self-reported nature of juvenile and adult offense records, the nature of any problems or difficulties during any previous confinements and any special concerns or worries the newly admitted inmate had regarding his stay at FCI.

Since the interview was administered by his team psychologist, the inmate knew that the results would influence his classification and assignments to work and educational programs. No doubt this set influenced the content of the interview to some extent. However, this attitude is the same that would be operative in any classification interview, so the results obtained should be directly generalizable to applied settings.

The intake interviews were tape recorded and scored on approximately 250 discrete items, typically five-point scales, by two independent raters. (The actual items to be scored and the point values of various options were printed on the interview schedules to facilitate the interviewers in obtaining the information needed by the raters to score each item.) The raters were trained on a series of practice tapes until they attained a sufficiently high degree of reliability. A criterion rater monitored the independent ratings; when noteworthy discrepancies appeared, she listened to the tape and did a criterion rating.

After all the interviews had been independently rated, the two sets of ratings were combined. Frequency distributions were computed on the combined ratings and global scales were constructed assessing various characteristics of the developmental family, educational and vocational adjustment, interpersonal relations, overall adjustment and patterns of criminal behavior. This was done by differentially weighting different items and

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combining them on the basis of their distributions and manifest content. A list of these global scales appears in Table 3-5.

Four scales were derived by Nuehring (1976) that were based on the information contained in both the PSI and the Intake Interview. They are listed in Table 3-6.

After each interview, the psychologists recorded their clinical impressions of the inmates by filling out a Gough-Heilbrun Adjective Checklist and performing an evaluative Q-sort. Nine scales were later constructed based on the psychologist's Q-sorts. (See Table 3-7.)

At the end of the fourth week, each inmate was assigned to a dormitory on a space-available basis and the program of educational or vocational training prescribed by his classification team was instituted.

From the beginning of the study until July, 1974, data were systematically collected regarding the institutional adjustment and achievement of every member of the research cohort. These data included such measures as disciplinary infractions, time spent in disciplinary segregation, reports to sick call and monthly grades in all academic and vocational courses. In addition, every dormitory officer and every work supervisor filled out sets of scales assessing each subject's interpersonal adjustment and work performance at ninety-day intervals.

Immediately prior to release, as many subjects as possible were reinterviewed and retested on the MMPI, CPI, Values questionnaire and Adjective Checklist. The purpose of this reassessment was to obtain data for the predictions of post-release adjustment, to assess the impact of the institution and to obtain a consumer's opinion regarding the value of various institutional procedures and programs.

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Table 3-1: Characteristics of the follow-up sample compared with the total cohort

Variable	Follow-up sample			Missing cases			Total cohort		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Entry age	22.3	2.3	947	22.0	2.3	398	22.2	2.35	1345
Prior arrests	8.0	8.4	947	5.7	5.3	398	7.4	7.8	1024
Days served	523.8	375.	947	420	318.	398	493.	362.	1345
Beta IQ	100.6	14.4	744	101.0	13.7	312	100.	14.2	1056
Highest Grade	9.7	2.2	769	10.1	2.2	300	9.8	2.2	1069

Table 3-2: Race and marital status of the follow-up sample

Race	Follow-up sample		Missing cases		Total cohort	
	N	%	N	%	N	%
White	609	64.3%	247	62.1%	856	63.6%
Black	329	34.7%	146	36.7%	475	35.3%
Other	9	1.0%	5	1.3%	14	1.0%
Total	947		398		1345	

Marital Status	Follow-up sample		Missing cases		Total cohort	
	N	%	N	%	N	%
Single	595	62.8%	269	67.6%	864	64.2%
Married	188	19.9%	90	22.6%	278	20.7%
Separated/ Divorced	122	12.9%	31	7.8%	153	11.4%
Widower	35	3.7%	6	1.5%	41	3.0%
Unknown	7	0.7%	2	0.5%	9	0.7%
Total	947		398		1345	

Table 3-3: Number of violent offenders in the follow-up sample

Number of Arrests for Violent offenses	Violent offenders				Nonviolent Offenders
	Types of violence			Total	
	Angry	Instrumental	Potential		
None	0	0	0	0	343
One	113	56	61	240	0
Two or more	311	51	12	384	0
Total	424	127	73	624	343

Table 3-4:

Presentence Investigation Report Scales

Familial and Developmental Measures:

Family Incohesiveness

Adequacy of Childhood Dwelling

Social Deviance Measures (Family):

Social Deviance of Family

Social Deviance of Father

Social Deviance of Mother

Social Deviance of Siblings

Educational and Vocational Adjustment Scales:

School Problems

Employment Problems

Achievement Motivation

Interpersonal Relations Measures:

Problems in Interpersonal Relations

Authority Conflicts

Adjustment Measures:

Childhood and Adolescent Maladjustment
and Deviance

Adult Maladjustment and Deviance

Poor Physical Health

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Table 3-4: Presentence Investigation Report Scales
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Criminal Behavior Problems:

Juvenile Conviction Record

Adult Arrest and Conviction Record

Violence of Offense

Group Influence on Illegal Behavior

Prior Prison Adjustment

Table 3-5:

Intake Interview Scales

Familial and Developmental Measures:

Family Incohesiveness

Parental Nurturance

Adequacy of Parental Discipline

Social Deviance Measures (Family):

Social Deviance of Father

Social Deviance of Mother

Educational and Vocational Adjustment Measures:

School Problems

Employment Problems

Problems in Military Service

Achievement Motivation

Interpersonal Relations Measures:

Interpersonal Difficulties with Peers

Problems in Race Relations

Authority Conflicts

Marital Instability

Criminal Behavior Patterns Scales:

Prior Criminal Record

Propensity to Violence

Drug and Alcohol Usage

Prior Prison Adjustment

Attitudes Toward Criminal Justice System

Chapter 3: Rationale and Methodology

Table 3-6:

Scales Based on Both the Intake Interview
and the Presentence Investigation Report

(Nuehring, 1976)

Father as a (Negative) Role Model

Socioeconomic Status of Family

Social Marginality

Parent-Child Tension

Table 3-7:

Scales Based on the Psychologists' Q-Sorts

1. Aggression
2. Hostility Avoidance
3. Authority Conflict
4. Sociability
5. Social Withdrawal
6. Social/Emotional Constriction
7. Passivity
8. Dominance
9. Adaption to the Environment

Part II: Comparisons of the Groups on Selected Variables

General hypotheses regarding the nature of criminal violence and the characteristics of violent individuals were drawn from the literature and the theoretical framework presented in Chapter 2. From these general hypotheses, specific hypotheses that could be tested using the available data set were formulated.

In this section, we shall present the results of these studies. Chapter 4 starts this section with demographic and descriptive data on the various violent and nonviolent samples and subsamples. In Chapter 5 the characteristics of the groups' developmental families will be presented and contrasted, while Chapter 6 focuses on their socialization and culturally acquired value systems.

In Chapter 7, physical factors such as health, health-related practices such as substance abuse, and autonomic reactivity are presented. Chapter 8 deals with mental health as assessed by psychiatric history and personality assessment devices. Chapter 9 focuses on cognitive functioning as indicated by educational history and measures of intellectual functioning. This is followed by Chapter 10, which investigates the degree to which vocational attitudes and adjustment differ among the groups. Chapter 11 focuses on social skills and interpersonal relations as assessed by personality assessment devices and the observations of staff members. Chapter 12 continues this theme, with particular attention to aggressive behavior and attitudes.

For each set of variables, three analyses were performed. The first compared the Nonviolent Offenders, who had never been charged with any sort of violent crime, with all the Violent Offenders; in these analyses, the Violent sample included the Potentially Violent, the Angry, and the Instrumentally Violent offenders. It also included both those who had been charged with but a single violent offense as well as those who had two or more charges.

The second analysis compared the "Angry" with the "Instrumentally Violent" subgroups. No Nonviolent or Potentially Violent subjects were included in these comparisons which were designed to determine if violent offenders differ as a function of apparent motivation.

The third analysis compared the "One Off" or "Single Violent" Offenders, who had only one charge for a violent crime with the "Repetitively Violent" Offenders who had two or more such charges. The rationale for this comparison was that while a single violent crime may occur by chance, by accident or in response to extraordinary circumstances, two or more such offenses may indicate a pattern of violent behavior that is more closely related to personality factors.

Chapter 4:

Demographic Characteristics of the Samples

At the time the initial data for this study were collected, the Federal Correctional Institution at Tallahassee was one of about 45 institutions in the overall Federal Prison System. Those men chosen for Tallahassee were all "youthful offenders" (actually young adults) who, it appeared, needed the extensive programming and the medium security level that Tallahassee provided. Many, in fact, were sentenced to indeterminate zero to six year ("zip-six") sentences under the Youth Corrections Act. Given these selective factors, the demographic composition of the population was rather homogeneous, limiting the room for variation among our samples.

Age. As noted in Chapter 3, the overall mean age of the follow-up samples at the time they entered the FCI was 22.3 with a standard deviation of 2.3 years. As can be seen in Table 4-1, the ages of the Nonviolent, Potentially Violent, Angry Violent and Instrumentally Violent samples closely approximated this overall average. Their mean ages ranged from 22.14 to 22.45 and the standard deviations from 2.07 to 2.38 years. This table also presents a detailed breakdown of age by type and number of offenses.

Marital status on entry. There was slightly more variability among the groups in marital status on entry, but none of the differences approached statistical significance. Of the 804 follow-up subjects whose marital status was recorded, 445 (55.3%) were single; the proportions in the four subgroups ranged from 49.1% to 59.6%. In the total follow-up sample, 199 (24.6%) were married or in stable live-in relationships, with the proportions ranging from 23.7% to 30.9% for the four samples; 125 (15.5%) were separated or divorced, with the proportions ranging from 13.1% to 18.0%. Finally, 35 men, 4.4% of the follow-up sample, were widowers, with the proportions ranging from 3.5% to 6.3%. (See Table 4-2). An overall 4 by 4 Chi Square was conducted on the data in Table 4-2; a Chi Square of 9.59 was obtained which, with nine degrees of freedom was not significant.

A more detailed breakdown of marital status as a function of the number and types of offenses is presented in Table 4-3.

Race. In the early 1970s, when the demographic data were collected, the Bureau of Prisons classified each individual's race as "White," "Black," "Red," and "Other." The primary criterion was how the individual classified his own racial identity. There was no separate category for Hispanic people.

Chapter 4: Demographic Characteristics

Over 99% of the inmates in our sample classified themselves as White (65.2%) or Black (34.0%). Only seven men (0.7%) stated they were Native Americans and one (0.1%) indicated he was "Other." Because of the small cell entries in the latter two categories, a 4 by 2 Chi Square analysis was conducted on the relative proportions of "Whites" and "Nonwhites (Other)" in the four samples. Highly significant differences were obtained (Chi Square = 64.34, df = 2, p. < .001). (See Table 4-4.) While the Potentially Violent subjects almost exactly matched the proportions of the races in the institution as a whole, Whites were over-represented in the Nonviolent sample (81.2%) while Nonwhites were over-represented among the Angry (44.3%) and Instrumental (46.9%) Violent offenders. A more detailed breakdown of race and ethnicity by number and types of offenses can be found in Table 4-5.

Why should Nonwhites be over-represented among the violent offenders? One explanation is that minorities in America experience more frustration, which, according to Dollard et al. (1939) should engender increased instigation to aggression. Another explanation is offered by Differential Opportunity Theory (Merton 1938, 1959); if discrimination blocks their legitimate aspirations, they may have to resort to violence, as in robberies, to obtain their share of the available goods.

The frustration/aggression argument would suggest an over-representation of Blacks in the Angry Violent group, whereas the Differential Opportunity theory would suggest an excess in the Instrumental Violence category. In point of fact, both these subsamples had almost the same proportion of Nonwhites, so the evidence is equally in favor of both these explanations. Nor can we overlook the possibility that the home and neighborhood environments in which many of these subjects grew up did not favor the development of traditional social values, specifically inhibitions against aggression; instead aggressive habits might have been fostered. Cultural influences will be examined in Chapter Six.

As we proceed to analyze familial, cultural and other variables, we shall keep these hypotheses in mind. At the same time, while we will be interested in exploring the reasons for this over-representation of Blacks among the two violent groups, we must not allow ourselves to regard criminal violence as a "Black thing." In point of fact, the data also show that the majority of the violent subjects were White.

Prior offenses. From the standard Bureau of Prisons forms described in Chapter 3, the number of prior adult convictions for each inmate was recorded. These data are reported in Table 4-6. Overall 461 of these youthful offenders (56.84%) had no priors and 350 (43.16%) had one or more. The relatively large number of

Chapter 4: Demographic Characteristics

first offenders is consistent with the youth of the sample and the fact that these young men had been sent to a correctional institution that had extensive educational and treatment resources. Older, more hardened repeat offenders would have received a lower priority for programming under the "RAPS" system then in place which considered a subjective Rating, age level, number of prior commitments and the length of sentence imposed.

The proportion of first offenders ranged from 52.81% in the "Angry Violent" group to 61.46% in the Nonviolent group. The differences in the proportions of first offenders and recidivists in the four groups were not statistically significant (Chi square = 5.18, df = 3, p = 0.16).

Nature of the commitment offense. Each subject's commitment offense was also recorded. In the case of multiple charges, the primary or most serious offense was chosen. Since this was a federal correctional institution, all of the offenses naturally involved violation of federal statutes. These differ from state statutes in that they are focused more on crimes having an interstate component. Thus, stealing a car is a state offense, driving it across a state line is a federal offense. Indeed, violation of the National Motor Vehicle Transportation (Dyer) Act was the modal offense in this cohort.

An exception to this general rule is an offense occurring on a federal or government reservation. Thus, while rape or assault are typically crimes prosecuted by state authorities and punished by imprisonment in state facilities, any offenses occurring on U.S. Government property, such as the District of Columbia, military bases, and national parks, are federal offenses. Because of this difference, some criminologists are skeptical about the generality of studies such as the present one which involves federal prisoners. However, in our previous study on career criminality, we discovered that, in the present cohort, those men who committed other offenses in addition to their commitment offense typically had state as well as federal charges.

Surveying the range of commitment offenses, they appeared to fall into seven broad categories:

1. Larceny, which included burglary, robbery, and embezzlement;
2. Fraud, which included misrepresentation and counterfeiting;
3. Interstate transportation of stolen or illegal property other than drugs, which in 93% of the cases involved a stolen automobile;
4. Possession of contraband other than drugs such as

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illegal firearms or stolen property;

5. Federal crimes against persons such as kidnaping or violent crimes on government property;

6. Violation of federal drug or liquor laws; and

7. Other offenses, such as violation of the Selective Service Act.

The overall number of subjects in the follow-up samples falling into these categories is reported in Table 4-7. Table 4-8 provides a detailed breakdown of prior commitments, arrests and convictions, including the number before and after age 18. Since the classification of our subjects into nonviolent and violent subsamples was based on the entire criminal record, including the commitment offenses, it is not surprising that the groups differed significantly (Chi square = 113.67; df = 18; $p < .001$) since in some cases it was the commitment offense that determined the classification.

Examining the actual Chi square computations (which are not included in Table 4-7), it was evident that the major differences among the groups occurred in the Larceny, Contraband and Drugs/Liquor categories. The Nonviolent sample had a much higher proportion of offenders convicted for violating federal drug and liquor laws. In 1970-1972, when these data were collected, this typically involved importation, possession or transportation of illicit drugs or untaxed alcohol. The Nonviolent sample was less likely than the others to be involved in larceny and possession of contraband other than drugs or alcohol.

The Potentially Violent group distinguished itself by having many more offenders committed for possession of other forms of contraband. This is not surprising since this offense category could include illegal weapons and explosives, charges that would cause an offender to be categorized as potentially violent in the present study, if he had never been charged with actual violence.

The Angry Violent subjects did not differ greatly from the overall norms for any of the offenses, but the Instrumentally Violent differed substantially. They were more than twice as likely as the other groups to be committed for larceny; since this category included robbery, and bank robbery is a federal offense, this difference too may be an artifact. The Instrumental group was much less likely than the others to be involved in drugs or alcohol offenses.

Table 4-7 also shows that only 15 men in the total sample had been initially committed for crimes against persons; of these 12 were in the Angry Violent group. None, of course, were in the Nonviolent group.

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First and second offenses. The nature of the first and second offense recorded was also copied from the prison files. These data are presented in Table 4-8. Similar data are presented for the second recorded offenses in Table 4-9. The most noteworthy finding is that 80% of the Angry Violent subgroup's first offenses were crimes against persons. However, once again these data are confounded since some of these offenses no doubt determined their classification.

Summary. The demographic data showed the research cohort consisted of young adult males, most of whom were single and sentenced for their first adult conviction. The four subsamples did not differ significantly in age, marital status, and prior record. The groups did differ significantly in the offenses for which they had been committed to FCI. Since the commitment offenses were used to classify the subjects, these data are, of course, confounded. There were, however, truly significant differences in the racial composition of the samples, the Nonviolent sample having a higher proportion of white subjects than any of the violent groups.

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Table 4-1:

Demographic Characteristics of Violence Variables:

Age at Entry and Year of Birth

<u>Violence Variables</u>	<u>Age at Entry</u>		<u>Year of Birth</u>	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
Type of Violent Offender				
nonviolent	22.27	2.38	48.46	2.28
potential	22.25	2.07	48.57	1.92
instrumental	22.14	2.15	48.64	2.26
angry	22.45	2.29	48.22	2.28
# Violent Convictions				
none	22.36	2.30	48.36	2.23
one	22.22	2.21	48.43	2.24
two or more	22.37	2.42	48.56	2.38
# Violent Charges				
none	22.25	2.32	48.50	2.20
one	22.26	2.19	48.47	2.20
two or more	22.46	2.33	48.20	2.35
# Violent Convictions Overall				
none	22.39	2.30	48.34	2.25
one	22.16	2.23	48.54	2.26
two or more	22.35	2.33	48.41	2.24
# Violent Charges Overall				
none	22.25	2.37	48.49	2.26
one	22.28	2.27	48.52	2.27
two or more	22.41	2.22	48.24	2.22
# Angry Violent Convictions				
none	22.36	2.27	48.38	2.24
one	22.13	2.36	48.56	2.23
two or more	22.42	2.38	48.30	2.47
# Angry Violent Charges				
none	22.22	2.28	48.54	2.22
one	22.45	2.34	48.25	2.27
two or more	22.43	2.22	48.18	2.31
# Instrumentally Violent Convictions				
none	22.32	2.29	48.37	2.23
one	22.40	2.31	48.39	2.31
two or more	22.02	2.18	48.97	2.37

Chapter 4: Demographic Characteristics

Table 4-1: Demographic Characteristics of Violence Variables
Age at Entry and Year of Birth
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<u>Violence Variables</u>	<u>Age at Entry</u>		<u>Year of Birth</u>	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
# Instrumentally Violent Charges				
none	22.27	2.27	48.42	2.21
one	22.56	2.38	48.32	2.31
two or more	22.15	2.18	48.47	2.41
# Potentially Violent Convictions				
none	22.32	2.31	48.41	2.28
one	22.34	2.13	48.43	2.16
two or more	21.92	2.30	48.81	2.28
# Potentially Violent Charges				
none	22.33	2.34	48.41	2.32
one	22.23	2.18	48.41	2.07
two or more	22.48	2.07	48.30	1.92

Chapter 5:

Familial and Social Factors and Violent Criminal Behavior

Background and Rationale

The family is, without doubt, the most powerful environmental influence on the child's socialization and values. A family that abuses or neglects the child or which provides the child with negative role models can foster later violence in several ways according to our theoretical framework. Deprivation, neglect and abuse are frustrating in the extreme, and it will be recalled that the Yale group (Dollard et al, 1939) postulated that frustration is the cause of (angry) instigation. Parents that transmit deviant values or fail to foster the usual middle-class taboos against engaging in physical aggression can produce children who grow up with insufficient inhibitions against aggressive behavior. Parents who are themselves violent not only lower the child's inhibitions, but also can increase vicariously aggressive habit strength through social modeling (Bandura, Ross, & Ross, 1961). Thus, for a number of sound theoretical reasons we would predict that violent inmates would come from more deviant families than nonviolent inmates.

Bandura and Walters (1959) investigated the factors, familial and otherwise, that differentiated violent delinquents from nonviolent nondelinquent adolescents. As might be expected, many of their findings were similar to those of studies that have compared delinquents with nondelinquents, so the differences they noted cannot be viewed as being specific to violence per se. McCord, McCord and Howard (1961) controlled for delinquency by studying the factors associated with differences in aggressiveness among nondelinquent children. This study, too, suggested links between parental behavior such as conflicts, dissatisfactions, and lack of affection with aggressive behavior on the part of the children.

Method

Data regarding familial factors were drawn from four sources: the MMPI administered on intake (scored for Wiggins' Family Problems scale), Itkin's (1952) self report scales on Attitudes Toward Father and Attitudes Toward Mother, the intake interview and the Presentence Investigation Report. Five scales derived from the Presentence Investigation were used: Family Incohesiveness, Social Deviance of the Mother, Social Deviance of the Father, Social Deviance of the Siblings, Social Deviance of the Overall Family and Physical Adequacy of the Childhood Dwelling.

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Six global scales based on the Structured Interview were examined. Five dealt with the developmental family in which the inmate was raised: Past Family Incohesiveness, Parental Nurture, Adequacy of Parental Discipline, Father as a Socializing Influence, and Mother as a Socializing Influence. The sixth scale, Marital Instability, referred to the inmate's own marriage. Since, as already noted, most subjects were not yet married at the time they entered FCI, there were considerably lower sample sizes in the analyses dealing with the Marital Instability Scale.

Finally, four scales constructed by Nuehring (1976) were used: Parent-Child Tension, Father as a (Negative) Role Model, Socioeconomic Status, and Social Marginality. These scales were based on both the PSI and the Intake Interview and were devised to test certain theoretical predictions about the characteristics of certain offense groups. The scale Father as a Role Model attempted to assess both the father's availability and the quality of the father-son interactions; the higher the score, the less available the father was and the poorer the model he provided when he was around.

Three sets of analyses were performed on these data. The first compared all the Violent inmates with the Nonviolent subjects. The next two sets tested for differences among the violent subjects; the first compared the Angry with the Instrumentally Violent offenders and the second contrasted those men with but a single violent offense with those who had two or more arrests for violent crimes.

Violent vs. Nonviolent Offenders

The first analysis compared the Nonviolent Offenders with all the Violent Offenders, that is the Potentially Violent, the Angry Violent and the Instrumentally Violent Offenders. This can be found in Table 5.1 at the end of this chapter. No significant difference was found on the MMPI Family Problems scale. On the Itkin scales, Violent Offenders reported significantly more favorable attitudes toward their mothers ($t = -2.31$, $p = .021$, two tail). They also tended to report more favorable attitudes toward their fathers as well ($t = -1.61$, $p = .098$, two tail). One wonders how many of their violent offenses were precipitated by some antagonist insulting their mother.

Turning to the Intake Interview, none of the scales on child rearing or family cohesiveness showed any significant differences between the Violent and the Nonviolent Offenders. The scale of Overall Social Deviance of the Family did attain significance ($t = -2.80$, $p = .005$, two tail), with the Violent Offenders coming from the more socially deviant families. The analyses of the subscales regarding the social deviance of various family members showed the Violent Offenders' siblings to be more deviant than

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the Nonviolent Offenders' ($t = -2.80$, $p = .005$, two tail), but no significant differences were obtained for either the Mother's or Father's social deviance.

Highly significant differences between the Violent and Nonviolent Offenders were obtained on the PSI scales for Socioeconomic Status ($t = 3.39$, $p = .001$, two tail) and Physical Adequacy of the Childhood Dwelling ($t = 3.65$, $p = .000$, two tail). In both cases, it was the Nonviolent Offenders who had the higher scores, indicating higher SES and more adequate living conditions. Finally, on the scale for Social Marginality, the Violent Offenders obtained significantly higher scores ($t = -3.76$, $p = .000$, two tail).

These comparisons of the family backgrounds of the Violent and Nonviolent Offenders indicated that there were no discernible differences in the childrearing and nurturance, but that the Violent Offenders came from more deviant and marginal families, and were more likely than the Nonviolent Offenders to come from less adequate physical surroundings and from lower socioeconomic circumstances than the Nonviolent Offenders. Further analyses are needed to determine whether these differences are associated with differences in minority group status.

Angry vs. Instrumental Violent Offenders

Next, the differences between the Angry Violent and the Instrumentally Violent subjects were tested to determine whether, as one might expect, the Angry subgroups' families manifested more problems than those of the Instrumental subgroup (Wilson & Herrnstein, 1985).

Method. In these analyses, the same set of dependent variables was used as in the comparison of the Violent with the Nonviolent Offenders. However, the Nonviolent and the Potentially Violent subjects were excluded, leaving only the Angry and Instrumentally Violent subjects.

Results. The results of these comparisons can be found in Table 5-2. The results were quite clear cut: none of the comparisons was significant. Whatever differences there are between Angry and Instrumentally Violent Offenders, they are clearly not to be found in their upbringing or developmental families, insofar as they can be assessed with the techniques used in the current investigation.

Single vs. Repetitively Violent Offenders

Method. In the final set of analyses, those Violent Offenders whose records showed they had been charged with a crime of violence only one time in their careers were compared with those who had two or more such charges. (Potentially Violent subjects

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were excluded from these analyses.) While a single violent offense may be accidental, situationally determined or victim precipitated, being charged with two or more violent offenses suggests a possible pattern of violent behavior. Although two tailed tests were used, it was anticipated that the Violent Offenders with two or more charges would be assessed as more deviant than those with but a single charge.

Results. The results of these analyses were consistent with this expectation. The pattern of significant differences indicated that more negative factors were found among the Repetitively Violent Offenders. Interestingly, the variables that discriminated the Repetitively Violent from the "One Off" Violent Offenders differed from those that had distinguished the Violent from the Nonviolent criminals.

Evidence from several sources converged in pointing to the relation of the subjects with their father differing from the single to the repetitively violent subjects. Significant differences were obtained on the Interview scale Father as a Socializing Influence ($t = 3.46$; $p = .001$, two tail) and on the Interview and PSI scale Father as a Role Model ($t = -3.08$; $p = .002$, two tail). Moreover, the Itkin the Scale for Attitude Toward the Father closely approached significance ($t = 1.89$, $p = .059$, two tail). These scales all indicated that the fathers had a more positive and constructive influence on the "One Off" Offenders than was the case with the Repetitively Violent subjects.

In addition, the Violent Offenders who had but a single charge were significantly better than the Repetitively Violent Offenders with respect to Parental Nurturance ($t = 2.21$, $p = .028$, two tail). They reported significantly less Parent Child Tension ($t = -2.92$, $p = .012$, two tail), and significantly more adequate Parental Discipline ($t = 2.54$, $p = .012$, two tail). They came from families that were significantly higher in Socioeconomic status ($t = 3.95$, $p = .000$, two tail), lived in better houses ($t = 3.12$, $p = .002$, two tail), and were lower in Social Marginality ($t = -3.52$, $p = .000$, two tail).

Summary. The variables that differentiated the Nonviolent from the Violent Offenders were those reflecting economic deprivation and social deviance and marginality of the developmental family, but in addition to these measures, variables reflecting the adequacy of childrearing differentiated the Single from the Multiply Violent Offenders. No differences were found between Angry and Instrumentally Violent Offenders.

The prediction of dangerous behavior is a notoriously difficult task. It is interesting that there appear to be more significant differences between the Single and the Multiply Violent Offenders than between the Nonviolent and the Violent Offenders. Most studies on the prediction of dangerous behavior contrast

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violent criminals with some contrast group such as nonviolent criminals or normals; few have much success. It may be that chance factors enter in to many isolated crimes of violence and that more meaningful and reliable personality differences are to be found between the Repetitively Violent Offenders and other groups, including even Single or "One Off" Violent Offenders.

Further analyses need to be done to determine if these differences are confounded with minority group membership. Since stabler more nurturing homes with fair and consistent discipline are more apt to produce better socialized adults, it will be interesting to see if differences in socialization and acculturation are also found among these groups. This question will be investigated in the next chapter.

Table 5-1

Association of Violent Crime with Familial Factors
Violent vs. Nonviolent Offenders

Family Variable	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
MMPI Family Problems	N	305	5.97	3.40	-.60	.549
	V	569	6.10	2.97		
Itkin Parent Attitude: Mother	N	309	93.74	16.01	-2.31	.021
	V	524	96.15	13.59		
Itkin Parent Attitude: Father	N	295	86.03	19.94	-1.66	.098
	V	501	88.29	17.68		
Past Family Incohesiveness-Interview	N	279	16.89	6.13	-.57	.569
	V	477	17.15	5.93		
Nurturance- Interview	N	285	40.78	6.21	-.87	.384
	V	499	41.16	5.70		
Parent-Child Tension PSI and Interview	N	270	28.00	5.55	-.24	.809
	V	476	28.09	5.21		
Parent-Child Discipline- Interview	N	270	22.10	4.25	.20	.844
	V	475	22.03	4.37		
Father as Socializing Influence - Interview	N	283	26.90	6.20	1.03	.305
	V	493	26.42	6.07		
Father as Role Model- PSI and Interview	N	282	19.00	5.06	-.54	.592
	V	494	19.20	4.96		
Mother as Socializing Influence-Interview	N	296	27.77	4.54	-.09	.931
	V	526	27.80	4.42		
Marital Instability- Interview	N	109	23.64	6.20	-1.34	.181
	V	203	24.72	7.04		
PSI Family Incohesiveness	N	282	19.49	6.33	-1.63	.103
	V	488	20.22	5.80		
PSI Social Deviance of Family-Father	N	263	10.89	3.92	-1.72	0.87
	V	449	11.42	3.96		

Table 5-1 (continued)

Association of Violent Crime with Familial Factors
Violent vs. Nonviolent Offenders

Family Variable	Violent/ Nonviolent	N	Mean	S.D.	t-value	Prob.
PSI Social Deviance of Family-Mother	N	273	9.55	3.23	-1.19	.236
	V	466	9.83	3.10		
PSI Social Deviance of Family-Siblings	N	211	2.74	1.44	-2.81	.005
	V	350	3.13	1.70		
PSI Social Deviance of Family-Overall	N	254	22.70	6.94	-2.80	.005
	V	437	24.23	6.92		
Socioeconomic Status- PSI and Interview	N	196	21.17	5.61	3.39	.001
	V	310	19.57	4.90		
Physical Adequacy of Childhood Dwelling	N	201	9.70	2.65	3.65	.000
	V	317	8.86	2.45		
Social Marginality- PSI and Interview	N	274	23.53	5.45	-3.76	.000
	V	454	25.03	5.12		

Table 5-2

Association of Violent Crime with Familial Factors
Angry vs. Instrumentally Violent Offenders

Family Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
MMPI Family Problems	A	394	5.97	2.83	-.79	.43
	I	111	6.23	3.10		
Itkin Parent Attitude: Mother	A	353	95.48	13.87	-1.73	.08
	I	112	97.89	12.52		
Itkin Parent Attitude: Father	A	337	87.87	17.90	-1.27	.21
	I	107	90.18	15.88		
Past Family Incohesiveness-Interview	A	320	17.11	5.89	-.33	.74
	I	102	17.33	5.86		
Nurturance- Interview	A	334	40.96	5.68	-1.15	.25
	I	107	41.68	5.60		
Parent-Child Tension PSI and Interview	A	332	28.24	5.18	.57	.57
	I	107	27.91	5.60		
Parent-Child Discipline- Interview	A	332	21.89	4.42	-1.36	.17
	I	101	22.55	4.24		
Father as Socializing Influence - Interview	A	331	26.08	6.14	-.92	.36
	I	105	26.70	6.10		
Father as Role Model- PSI and Interview	A	331	19.37	5.03	.64	.52
	I	106	19.01	5.07		
Mother as Socializing Influence-Interview	A	354	27.82	4.38	-.01	.99
	I	113	27.83	4.42		
Marital Instability- Interview	A	138	24.59	7.29	-.49	.62
	I	37	25.22	6.78		
PSI Family Incohesiveness	A	324	20.37	5.82	1.23	.22
	I	108	19.62	5.34		
PSI Social Deviance of Family-Father	A	298	11.47	3.92	.75	.45
	I	99	11.13	3.94		

Table 5-2 (continued)

Association of Violent Crime with Familial Factors:
Angry vs. Instrumentally Violent Offenders

Family Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
PSI Social Deviance of Family-Mother	A	311	9.78	3.14	-.60	.55
	I	99	9.98	2.86		
PSI Social Deviance of Family-Siblings	A	233	3.08	1.66	-.90	.37
	I	76	3.29	1.78		
PSI Social Deviance of Family-Overall	A	291	24.22	6.89	-.04	.97
	I	94	24.24	6.56		
Socioeconomic Status-PSI and Interview	A	202	19.27	4.98	-1.63	.11
	I	71	20.35	4.78		
Physical Adequacy of Childhood Dwelling	A	205	8.80	2.48	-.79	.43
	I	71	9.06	2.38		
Social Marginality-PSI and Interview	A	302	25.10	5.06	.41	.69
	I	102	24.87	4.92		

Table 5-3

Association of Violent Crime with Familial Factors
Offenders with one Violent Offense vs. Repetitively Violent Offenders

Family Variable	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
MMPI Family Problems	1	220	6.06	3.26	-.28	.781
	2+	348	6.13	2.78		
Itkin Parent Attitude: Mother	1	205	96.07	14.60	-.08	.940
	2+	318	96.16	12.92		
Itkin Parent Attitude: Father	1	194	90.13	17.65	1.89	.059
	2+	306	87.06	17.62		
Past Family Incohesiveness-Interview	1	190	16.76	6.37	-1.20	.232
	2+	286	17.43	5.61		
Nurturance- Interview	1	199	41.83	5.67	2.21	.028
	2+	299	40.69	5.67		
Parent-Child Tension PSI and Interview	1	189	27.25	5.25	-2.92	.004
	2+	286	28.66	5.13		
Parent-Child Discipline-Interview	1	187	22.65	4.45	2.54	.012
	2+	287	21.62	4.27		
Father as Socializing Influence - Interview	1	197	27.56	5.67	3.46	.001
	2+	295	25.65	6.23		
Father as Role Model- PSI and Interview	1	197	18.37	4.80	-3.08	.002
	2+	295	19.76	4.99		
Mother as Socializing Influence-Interview	1	205	27.96	4.59	.69	.493
	2+	320	27.68	4.32		
Marital Instability-Interview	1	82	24.93	6.65	.41	.679
	2+	120	24.50	7.31		
PSI Family Incohesiveness	1	189	19.57	5.85	-1.99	.047
	2+	298	20.64	5.74		
PSI Social Deviance of Family-Father	1	179	11.14	3.88	-1.26	.208
	2+	269	11.62	4.00		

Table 5-3 (continued)

Association of Violent Crime with Familial Factors:
Offenders with one Violent Offense vs. Repetitively Violent Offenders

Family Variable	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
PSI Social Deviance of Family-Mother	1	182	9.65	3.32	-1.02	.308
	2+	283	9.95	2.94		
PSI Social Deviance of Family-Siblings	1	137	2.92	1.57	-1.91	.057
	2+	212	3.27	1.76		
PSI Social Deviance of Family-Overall	1	172	23.50	7.22	-1.82	.070
	2+	264	24.73	6.69		
Socioeconomic Status-PSI and Interview	1	126	20.85	4.98	3.95	.000
	2+	183	18.66	4.65		
Physical Adequacy of Childhood Dwelling	1	122	9.39	2.25	3.12	.002
	2+	194	8.52	2.52		
Social Marginality-PSI and Interview	1	179	24.01	5.17	-3.52	.000
	2+	274	25.72	4.99		

Chapter 6:

Socialization and Cultural Values and Violence

Background and Rationale

By and large middle-class American society disapproves of physical aggression and violence except under certain strictly delimited circumstances, i.e. in self defense or against an enemy in time of war. However, various authorities such as Wolfgang and Ferracutti (1967) have noted that there are deviant subcultures with different attitudes and mores regarding the expression of physical violence. Megargee (1982) included a "group committed to a violent lifestyle with supporting attitudes and values" as one of the six types of violent criminals that recurred in his survey of the literature on types of violent individuals. From this it would follow that some violent criminals deviate from conventional middle class values, failing to develop the normal inhibitions and prohibitions against physical aggression. The question is whether their value structure differs from that of nonviolent criminals, or if there are differences in socialization among angry, instrumental and potentially violent criminals.

The familial data presented in the previous chapter suggested that the differences among the Violent Offenders were less likely to be associated with whether the offense was Angry or Instrumental and more with whether the perpetrator had committed only one or two or more violent offenses. Since the "One Off" Violent subjects came from stabler and more nurturing homes with more appropriate discipline, it may be that socialization and cultural values may also be found to differentiate these subgroups.

Method

These notions were tested in two ways. To assess the offenders' identification with conventional middle class values, four scales from the California Psychological Inventory (CPI) were used, Responsibility (Re), Socialization (So), Self Control (Sc) and Communality (Cm). The CPI Re scale is supposed to identify people who are conscientious, reliable and dependable; it indicates the degree to which values and controls are internalized and understood. The So scale assesses the degree of social maturity, integrity and rectitude an individual has attained; it is considered by some to be "...one of the best-validated and most powerful personality scales available..." (Megargee, 1972a, p. 65). In many factor analyses of the CPI, it defines Factor 4 along with the Communality scale, which assesses the degree to which the respondent holds conventional attitudes typical to those held by the vast majority of the mostly middle class Americans who made up the derivation samples for the CPI. Self Control (Sc) indicates the degree to which the person tested is able to

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adhere to whatever values he espouses. People who are high on this measure are able to regulate their behavior, while those who are low are impulsive.

In addition to these CPI scales, one other measure was chosen to assess acculturation, the Intake Interview scale for Conservative Religious and Sexual Attitudes.

Results

Violent vs. Nonviolent offenders. The comparisons of the all the Violent Offenders with the Nonviolent Offenders can be found in Table 6.1 at the end of this chapter. None of the four CPI scales examined differentiated the Violent from the Nonviolent Offenders. In interpreting these data, it should be noted that the ranges of these CPI scales were quite restricted. As is usually the case among criminal offenders, the various group means were all well below average. None of the means equaled a T score of 50 and most were below 40.

However, the Intake Interview scale of Conservative Religious and Sexual Attitudes showed the Nonviolent Offenders espoused significantly more conservative values than their Violent counterparts ($t = 1.30$; $p = .01$, two tail).

Angry vs. Instrumental Violent Offenders. When the violent offenders were divided into Angry and Instrumental subgroups, (Table 6-2), no significant differences were found. There was a slight tendency for the Instrumentally Violent Offenders to be somewhat higher on Responsibility than the Angry Violent Offenders ($t = -1.86$, $p = .064$, two tail).

Single vs. Repetitively Violent Offenders. When subjects charged with only one violent offense were compared to subjects with two or more charges, (Table 6-3) statistically significant differences were obtained on the CPI scales for Responsibility ($t = 2.93$, $p = .003$, two tail), Socialization ($t = 2.08$, $p = .043$, two tail), and Communality ($t = 2.16$, $p = .031$, two tail), with the Repetitively Violent Offenders scoring in the more deviant direction. Thus, as anticipated in Chapter 5, the Repetitively Violent Offenders, who had less favorable childhood histories, were also assessed as being significantly lower on scales assessing the degree to which they had incorporated and lived according to conventional middle class values and standards.

Discussion. In terms of the theory of aggression guiding the present studies, these findings suggest that, among these criminal offenders who were assessed as young adults, it was not instigation to aggression, either Instrumental or Angry, that differentiated those who would become the most violent. Instead, the data thus far point to habit strength and inhibitions against

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aggression as the more important variables. The role of habit strength is suggested by the finding that, as in the previous chapter, the major differences are to be found between the Single and the Repetitively Violent Offenders. The importance of differences in inhibitions is inferred from the differences found on the CPI Responsibility, Socialization and Commuality scales.

In the 1950s, the criminologist Walter Reckless and his colleagues theorized that a positive self-concept would serve to buffer young men from becoming delinquent. In a series of studies of boys in high delinquency neighborhoods, Reckless and his associates established that boys nominated by their teachers as being likely to get into trouble differed from those nominated as being unlikely to become delinquent on their measure of self concept. Moreover, a follow-up four years later showed a dramatically higher rate of delinquency in the former group. (Reckless, Dinitz & Kay, 1957; Reckless, Dinitz & Murray, 1956; (Reckless, Dinitz & Murray, 1957).

Reckless' studies are relevant to the present investigation because it was the CPI Socialization scale that he used as his measure of self-concept. Whatever it was that shielded his young subjects from delinquency, it was measured by the So scale, the same scale that differentiated the Single from the Repetitively Violent Offenders in the present study. The author of the CPI, Harrison Gough, regards So as assessing the degree to which people have absorbed the values of their culture (Megargee, 1972a). If Gough is correct, then it would appear that in the "algebra of aggression" it is inhibitions against aggression, i.e. values, that separate the Single from the Repetitively Violent Offenders.

Summary. Summarizing the results with regard to cultural values and conformity, overall the Violent Criminals as a group did not differ from the Nonviolent Criminals. Nor did the violent criminals who acted out due to anger differ from the instrumentally violent offenders. However, the Repetitively Violent Offenders were assessed as being significantly less socialized, conforming and responsible than those offenders who were charged with only a single violent offense.

Table 6-1

Cultural Values and Violence:
Violent vs. Nonviolent Offenders

Values/Variables	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
CPI Responsibility	N	305	35.1	12.7	1.11	.28
	V	521	31.9	12.0		
CPI Socialization	N	305	36.1	11.5	1.12	.26
	V	521	33.8	10.8		
CPI Self Control	N	305	47.4	11.2	1.01	.88
	V	521	46.6	11.1		
CPI Communality	N	305	41.2	19.3	1.17	.13
	V	521	38.5	20.8		
Conservative Religious & Sexual Attitudes	N	370	15.7	4.1	1.30	.01
	V	117	15.1	3.6		

Table 6-2

Cultural Values and Violence:
Angry vs. Instrumentally Violent Offenders

Values/Variables	Type of Violence	N	Mean	S.D.	t-value	Prob.
CPI Responsibility	A	348	31.32	11.88	-1.86	.064
	I	113	33.70	11.68		
CPI Socialization	A	348	33.64	10.51	-.29	.773
	I	113	33.97	11.03		
CPI Self Control	A	348	46.78	11.07	.28	.782
	I	113	46.45	11.20		
CPI Communality	A	348	38.43	20.41	.28	.781
	I	113	37.81	22.33		
Conservative Religious & Sexual Attitudes	A	370	15.06	3.53	-.20	.842
	I	117	15.14	3.57		

Table 6-3

Cultural Values and Violence:
Offenders with One Violent Offense vs.
Repetitively Violent Offenders

Values/Variables	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
CPI Responsibility	1	208	33.72	12.95	2.93	.003
	2+	312	30.58	11.23		
CPI Socialization	1	208	34.99	11.57	2.08	.043
	2+	312	32.97	10.30		
CPI Self Control	1	208	46.79	11.23	.34	.731
	2+	312				
CPI Communality	1	208	40.86	19.56	2.16	.031
	2+	312	36.85	21.51		
Conservative Religious & Sexual Attitudes	1	211	15.407	3.69	1.38	.169
	2+	334	14.97	3.52		

Chapter 7:

Physical Factors Associated with Violent Criminal Behavior

Physical Health

Background and rationale. Physical health is not only an important variable in its own right, but also a proxy variable that can reflect many other criminogenic influences such as lower class status, early childhood deprivation, parental neglect and the like. In order to test the applicability of the frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer, & Sears, 1939) to homicide, Palmer (1960) made the assumption that poor health is a frustrating circumstance that would lead to increased instigation to aggression, i.e. anger and hostility. As he had predicted, Palmer found that convicted murderers had histories showing more health problems than their non-homicidal siblings.

On the other hand, severe physical disabilities could prevent a person from carrying out an attack. Reinforcement theorists would argue that young men who are larger, stronger and generally more mesomorphic than their peers are more likely to have been positively reinforced for aggressive behavior because they are more likely to have been reinforced by successful aggressive encounters as children. The first goal of the research reported in this chapter was to explore the relationship between physical health and criminal violence among the youthful offenders in these samples.

Method. Several measures were used to test the Null hypothesis that there is no difference in the physical health of the Violent and Nonviolent Offenders. The first was the Presentence Investigation Report scale "Poor Physical Health" which indicated whether or not as youthful offenders the subjects had manifested health problems of such severity that they came to the attention of the investigating probation officer.

During the time they were incarcerated, the number of times each inmate reported to Sick Call was recorded. The number of visits to Sick Call during the first and second 90 days of their confinement are the next two health variables used.

A third source of data was the MMPI. Two scales proved respondents with an opportunity to report a variety of physical symptoms and somatic complaints. One is Wiggins' (1966) Poor Health content scale from the MMPI. High scorers on this scale report a number of physical symptoms, most centering on the gastrointestinal system. The other is the standard MMPI clinical scale for Hypochondriasis (Hs). It consists of items which were empirically found to discriminate people with excessive somatic complaints from normals.

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Results. The comparison of the Violent and Nonviolent subjects on these variables is reported in Table 7-1. As can be seen, the differences were not significant. Only one of these five variables approached significance, namely reports to Sick Call for the second 90 days ($t = -1.94$, $p = .053$, two tail). Given the failure of any of the other health variables to differentiate between the Violent and the Nonviolent samples, it seems likely that this difference is due to chance.

The comparison of the Angry and the Instrumentally Violent Offenders on these is present in Table 7-2. None of the differences remotely approached statistical significance.

The comparison of the Repetitively Violent Offenders with those who had but a single violent charge is presented in Table 7-3. The two MMPI scales, which are very similar, both showed significant differences; on Wiggins Poor Health content scale ($t = -2.00$, $p = .046$, two tail) and the standard K-corrected Hypochondriasis scale ($t = -2.02$, $p = .044$, two tail) the Repetitively Violent Offenders had the more deviant scores, with their T-scores on $Hs \pm .5K$ being about a standard deviation above the norm (Mean T = 59.59). Consistent with this, there was also a slight tendency for the Repetitively Violent Offenders to make greater use of Sick Call in the first 90 days ($t = -1.65$, $p = .099$, two tail).

By and large these youthful offenders tended to be a healthy lot, and it is unusual to find differences in health related variables. The findings on the MMPI may simply be part of an overall pattern of greater deviance among the Repetitively Violent Offenders. This aspect will be explored further in the chapter dealing with mental health variables.

Drug and Alcohol Use

Background and rationale. Considerable concern has been voiced in recent years whether the use of illicit drugs and/or alcohol is associated with violent criminal behavior, either directly via psychophysiological effects or indirectly by motivating instrumental violence aimed at securing drugs.

Alcohol has long been associated with violent crime. In the "algebra of aggression," alcohol is regarded as a factor that operates to promote aggressive acting out by lowering inhibitions against aggression. This may or may not be due to its physiological effects in the brain. Lang and his colleagues have noted that in our culture people who drink expect to have their inhibitions lowered and are more prone to behave aggressively even if they have unknowingly been administered a placebo instead of alcohol (Lang, Goeckner, Adesso & Marlett, 1975; Lang & Michalec, in press). Whatever the specific mechanism, it would appear that any aggressive behavior that is associated with alcohol use would

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stem from decreased inhibitions.

The relation of drugs to violent behavior is more complicated. First, different drugs have different effects; some act as stimulants, others as depressant while still others are hallucinogenic to name only a few of the pharmacological effects. Many induce dependency, and addicted individuals suffering from withdrawal may commit instrumental offenses such as larceny to secure funds with which to purchase drugs.

Method. There were two primary sources of information regarding drug and alcohol use. The first was the Intake Interview administered to each inmate as part of the research project. The second was the report of the physical examination administered on intake. It is likely that this, too, was largely based on self reports.

In the Intake Interview, the psychologists recorded in detail the nature and extent of the inmate's self-reported drug and alcohol usage. In the course of this interview, the inmate was asked how often, if ever he had used each of 10 different substances (alcohol, marijuana, LSD, psilocybin, barbiturates, amphetamines, cocaine, opiates, and inhalants). Frequency of use was recorded as: "Never," "1-2 times," "Sometimes," or "Often" by two different raters, and their individual ratings were combined to create scales with a possible range from 0 to 6.

This information was used to create two measures of drug and alcohol use. The first was a global scale of self reported drug and alcohol use in which these items were weighted according to overall frequency and the degree of deviance represented by each drug. Thus, frequent use of heroin received a higher rating the frequent use of marijuana. The more different substances the inmate reported using substances, and the more often he indicated he used them, the higher his score on this scale of self-reported "Drug and Alcohol Usage." The differences on this measure were tested using t tests.

The second scale was categorical. In conjunction with a study of the validity of various MMPI drug and alcohol scales, Zager (1978; Zager & Megargee, 1981) used this interview information to classify the subjects into the following mutually exclusive groups:

- 0: Nonusers
- 1: Low alcohol
- 2: High alcohol
3. Low multiple drug use

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- 4: High multiple drug use
- 5: Low heroin use
- 6: High heroin use
- 7: Low drug use
- 8: High drug use

The second major source of data was a standard Bureau of Prisons form ("BP-8") filled out by the examining physician upon the inmate's entry into the prison. Three variables on this form addressed substance use or abuse as follows:

Drug Dependency:

- 1: Nonuser
- 2: Former user
- 3: Recent user
- 4: User (Immediate past)
- 5: User (Not withdrawn)

Type of drug:

- 1: Marijuana
- 2: Narcotics
- 3: Hallucinogens
- 4: Barbiturates
- 5. Psycho-stimulants
- 6: Other

Alcoholism:

- 1: Non-significant use
- 2: Former excessive use
- 3: Binge use
- 4: Habitual excessive use
- 5: Other

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Like the Intake Interview data, these medical reports were probably based primarily on the inmates' self-reports. Any differences to be found should be regarded as differences in the self-reported patterns of substance use among youthful offenders differing with respect to the degree to which they have been arrested for violent crimes, rather than as independently verifiable histories of actual use. Similarly, failure to find differences does not rule out the possibility that actual differences in alcohol or substance use may have been present.

Results. The results of the t tests on Zager's Intake Interview Drug Use Scale are reported in Tables 7-1, 7-2, and 7-3 along with the data regarding the measures of physical health. The comparisons of the Nonviolent with the Violent Offenders, of the Angry with the Instrumentally Violent Offenders and of the Repetitive with the Single Violent Offenders were all insignificant.

The data on the four categorical data appear in Table 7-4 through 7-7. Table 7-4 shows the data for the eight patterns of alcohol and drug use delineated by Zager; the first part of this table contrasts the Violent with the Nonviolent Offenders, the next section compares the Angry with the Instrumentally Violent Offenders and the last part compares the Single with the Repetitively Violent Offenders. Table 7-5 displays the same comparisons for the five categories of Drug Dependency derived from the BP-8 form, Table 7-6 provides this information for the variable "Type of Drug Used" derived from the BP-8 and Table 7-7 displays the information regarding patterns of alcohol use from the BP-8.

A number of Chi Square analyses were performed on these data, comparing users with nonusers, heavy users with light users and so on. No significant differences were found, and inspecting the data, it is clear that there are no reliable discernible differences in reported patterns of drug and alcohol use as a function of the violence of the offense(s).

Summary. The data regarding physical health and reported patterns of drug and alcohol use showed little association between these factors and the violence displayed by the various groups. If physical illness is a frustration that makes people angrier and hence more prone to violence, there is no evidence of it among these youthful offenders. Nor is there any indication that those who use alcohol or other drugs differ in their patterns of offending from those who do not. The only noteworthy findings in this section were that the Repetitively Violent individuals reported more somatic symptoms on the MMPI than did the "One Off" Violent Offenders; this may simply be part of a pattern of greater deviance among the Repetitively Violent group rather than an indication that physical illness contributes

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directly to violent tendencies.

Two factors must be kept in mind when evaluating these data. The first is that the present population consisted of youthful offenders who were basically in good health. The second is that most of the indices are based on self reports and are thus indications of what the subjects are willing to say about their health and their use of drugs and alcohol rather than measures of their actual use of these substances.

Table 7-1

Association of Violent Crime and Physical Health:
Violent vs. Nonviolent Offenders

Physical Health Variable	Violent/ Nonviolent	N	Mean	S.D.	t-value	Prob.
PSI Poor physical health	N	286	5.58	1.78	1.02	.84
	V	492	5.52	1.76		
Sick calls first 90 days	N	346	1.81	3.27	-1.31	.19
	V	625	2.11	3.35		
Sick calls second 90 days	N	346	1.83	3.27	-1.94	.053
	V	625	2.21	3.74		
MMPI: Poor health	N	305	6.06	4.01	1.16	.15
	V	569	6.36	4.30		
MMPI: Hypochondriasis	N	394	58.19	13.68	-.17	.861
	V	111	59.70	13.62		
Drug use- Interview	N	308	17.25	6.90	1.06	.30
	V	539	17.70	6.70		

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Table 7-2

Association of Violent Crime and Physical Health:
Angry vs. Instrumental Violence

Physical Health Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
PSI Poor physical health	A	327	5.63	1.81	1.27	.21
	I	108	5.38	1.76		
Sick calls first 90 days	A	424	2.21	3.55	.17	.862
	I	128	2.15	3.23		
Sick calls second 90 days	A	424	2.24	3.68	-.98	.327
	I	128	2.62	4.21		
MMPI: Poor health	A	394	6.46	4.38	.26	.795
	I	111	6.34	4.36		
MMPI: Hypochondriasis	A	394	58.96	13.68	-.17	.861
	I	111	58.70	13.62		
Drug use- Interview	A	364	17.79	6.74	-.07	.944
	I	116	17.84	6.98		

Table 7-3

Association of Violent Crime and Physical Health:
 Offenders with One Violent Crime vs.
 Repetitively Violent Offenders

Physical Health Variable	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
PSI Poor physical health	1	191	5.48	1.50	-.40	.690
	2+	300	5.55	1.91		
Sick calls first 90 days	1	240	1.83	2.77	-1.65	.099
	2+	384	2.28	3.66		
Sick calls second 90 days	1	240	2.38	4.02	.49	.622
	2+	384	2.23	3.54		
MMPI: Poor health	1	220	5.90	4.13	-2.00	.046
	2+	348	6.65	4.41		
MMPI: Hypochondriasis	1	220	57.25	12.71	-2.02	.044
	2+	348	59.59	13.87		
Drug use- Interview	1	208	17.64	6.98	-.05	.962
	2+	330	17.67	6.48		

Table 7-4

Zager Drug Alcohol Scale

	<u>Violent vs. Non Violent Offenders</u>									
	Non User		Low Risk Alcohol		High Risk Alcohol		Low Risk Multiple Drugs		High Risk Multiple Drugs	
	N	%	N	%	N	%	N	%	N	%
Non-violent	20	2.5	77	9.5	16	2.0	23	2.8	150	18.5
Violent	35	4.3	123	15.2	51	6.3	33	4.1	282	34.8
Totals	55	6.8	200	24.7	67	8.3	56	6.9	432	53.3

	<u>Angry vs. Instrumentally Violent Offenders</u>									
	Non User		Low Risk Alcohol		High Risk Alcohol		Low Risk Multiple Drugs		High Risk Multiple Drugs	
	N	%	N	%	N	%	N	%	N	%
Angry Violent	19	4.0	81	17.2	40	8.5	21	4.5	195	41.5
Instrumentally Violent	13	2.8	30	6.4	7	1.5	6	1.3	58	12.3
Totals	32	6.8	111	23.6	47	10.0	27	5.7	253	53.8

	<u>Offenders with One Violent Offense vs. Repetitively Violent Offenders</u>									
	Non User		Low Risk Alcohol		High Risk Alcohol		Low Risk Multiple Drugs		High Risk Multiple Drugs	
	N	%	N	%	N	%	N	%	N	%
One Offense	10	1.9	57	10.9	18	3.4	13	2.5	103	19.7
Two+ Offenses	25	4.8	66	12.6	33	6.3	20	3.8	178	34.0
Totals	35	6.7	123	23.5	51	9.8	33	6.3	281	53.7

Table 7-5

Drug Dependency

	<u>Violent vs. Non Violent Offenders</u>									
	Non User		Former User		Recent User		User-Immediate Past		User-Not Withdrawn	
	N	%	N	%	N	%	N	%	N	%
Non-violent	241	27.7	49	5.6	17	2.0	2	.2	1	.1
Violent	435	50.0	83	9.4	37	4.3	6	.7	0	0
Totals	676	77.7	131	15.1	54	6.2	8	.9	1	.1

	<u>Angry vs. Instrumentally Violent Offenders</u>									
	Non User		Former User		Recent User		User-Immediate Past		User-Not Withdrawn	
	N	%	N	%	N	%	N	%	N	%
Angry Violent	293	58.6	57	11.4	27	5.4	6	1.2	0	0
Instrumentally Violent	94	18.8	17	3.4	6	1.2	0	0	0	0
Totals	387	77.4	74	14.8	33	6.6	6	1.2	0	0

	<u>Offenders with One Violent Offense vs. Repetitively Violent Offenders</u>									
	Non User		Former User		Recent User		User-Immediate Past		User-Not Withdrawn	
	N	%	N	%	N	%	N	%	N	%
One Offense	172	30.8	32	5.7	14	2.5	2	.4	0	0
Two+ Offenses	263	47.0	49	8.8	23	4.1	4	.7	0	0
Totals	435	77.7	81	14.5	37	6.6	6	1.1	0	0

Chapter 7: Physical Factors

Table 7-6

Type Of Drug

	<u>Violent vs. Non Violent Offenders</u>											
	Marijuana		Narcotics		Hallucinogens		Barbiturates		Psycho-Stimulants		Other	
	N	%	N	%	N	%	N	%	N	%	N	%
Non-violent	14	7.1	23	11.7	20	10.2	4	2.0	9	4.6	0	0
Violent	26	13.3	63	32.1	17	8.7	9	4.6	9	4.6	2	1.0
Totals	40	20.4	86	43.9	37	18.9	13	6.6	18	9.2	2	1.0

	<u>Angry vs. Instrumentally Violent Offenders</u>											
	Marijuana		Narcotics		Hallucinogens		Barbiturates		Psycho-Stimulants		Other	
	N	%	N	%	N	%	N	%	N	%	N	%
Angry Violent	18	15.8	46	40.4	13	11.4	7	6.1	6	5.3	1	.9
Instrumentally Violent	5	4.4	12	10.5	3	2.6	1	.9	2	1.8	0	0
Totals	23	20.2	58	50.9	16	14.0	8	7.0	8	7.0	1	.9

	<u>Offenders with One Violent Offense vs. Repetitively Violent Offenders</u>											
	Marijuana		Narcotics		Hallucinogens		Barbiturates		Psycho-Stimulants		Other	
	N	%	N	%	N	%	N	%	N	%	N	%
One Offense	13	10.4	19	15.2	9	7.2	4	3.2	3	2.4	1	.8
Two+ Offenses	12	9.6	44	35.2	8	6.4	5	4.0	6	4.8	1	.8
Totals	25	20.0	63	50.4	17	13.6	9	7.2	9	7.2	2	1.6

Table 7-7

Alcoholism

	Violent vs. Non Violent Offenders							
	Non-Significant Use		Former Excessive Use		Binge Use		Habitual Excess	
	N	%	N	%	N	%	N	%
Non-violent	301	34.6	8	.9	1	.1	1	.1
Violent	532	61.1	12	1.4	5	.6	10	1.1
Totals	833	95.7	20	2.3	6	.7	11	1.3

	Angry vs. Instrumentally Violent Offenders							
	Non-Significant Use		Former Excessive Use		Binge Use		Habitual Excess	
	N	%	N	%	N	%	N	%
Angry Violent	365	73.1	9	1.8	3	.6	5	1.0
Instrumentally Violent	108	21.6	3	.6	2	.4	4	.8
Totals	473	94.8	12	2.4	5	1.0	9	1.8

	Offenders with One Violent Offense vs. Repetitively Violent Offenders							
	Non-Significant Use		Former Excessive Use		Binge Use		Habitual Excess	
	N	%	N	%	N	%	N	%
One Offense	209	37.5	5	.9	2	.4	3	.5
Two+ Offenses	322	57.7	7	1.3	3	.5	7	1.3
Totals	531	95.2	12	2.2	5	.9	10	1.8

Chapter 8: Violent crime and mental disorder

Background and Rationale

There is considerable disagreement regarding the relationship, if any, between mental illness and criminal behavior, especially violent crime. The typical research strategy has been to cross-tabulate criminal and mental health records. Thus, an investigator in a correctional institution may seek to determine how many offenders have records of past mental illness, while a researcher in a mental health setting may inquire about the incidence of criminal behavior among the patients.

There are a number of problems with such studies. Controls are often lacking, and the operational definitions of mental illness and criminal offense are sometimes questionable. In some instances, it is the relative availability of beds in the psychiatric facility and the jail that determines whether certain forms of deviant behavior are processed by the mental health or criminal justice systems. In the case of violent crime, records-based research often is limited to the instant or commitment offense, although it is not uncommon for violent offenders to have arrests and convictions for nonviolent offenses as well.

Although Collins and Schlenger (1983) reported that over the course of their lifetime male felons have a higher rate of mental disorder, Teplin's research suggests that this could be an artifact of a greater tendency on the part of police to arrest mentally disordered individuals (Teplin, 1984) and Monahan and Steadman (1983) argue that factors such as age, race and SES can account for much of the apparent covariation.

Another approach is to use psychometric measures such as the Minnesota Multiphasic Personality Inventory (MMPI) to assess the adjustment of violent offenders. The advantage of standardized personality tests is that they can assess deviance relative to national norms. Research on the MMPI has shown that Scales E, 4, 6, and 8 tend to be more elevated among criminals than they are with noncriminals. The question is whether they reflect differences among criminal offenders who differ with respect to violence.

A third attack on this problem replicates research by Heilbrun (1979) who discovered that he could differentiate violent from nonviolent felons by jointly considering psychopathy and intelligence; among Georgia State Prisoners, inmates who were higher in psychopathy and lower in IQ had a disproportionately high rate of commitment for violent crimes.

History of Maladjustment and Deviance

Method. The present study first investigated the association

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between mental health and violence by comparing Violent and Nonviolent Offenders on two scales based on the Presentence Investigation Report. The scale for Childhood and Adolescent Maladjustment and Deviance included items reflecting such things as reports of psychological trauma over parental deaths or divorces, educational and school behavior problems, and problems in interpersonal relations and emotional adjustment in childhood and adolescence recorded by the Probation Officer. The PSI Adult Maladjustment and Deviance Scale included items relating to drinking, drug use, adult emotional adjustment, sexual deviance, employment problems, problems with interpersonal relations, aggressiveness, authority conflicts and maladjustment in previous imprisonments.

First, the Violent and Nonviolent Offenders were compared on these scales. Then among the Violent Offenders, the Angry and the Instrumentally Violent were compared; although as always two tail tests were used, it seemed more likely that mental instability would be more characteristics of the Angry than the Instrumental subgroup. The third comparison was of the Single and the Repetitively Violent Offenders; it was anticipated that the latter group would exhibit more psychopathology than the former.

Results. The results of these three analyses are presented in Table 8-1. There was a slight trend for the Violent Offenders to be higher on Child Maladjustment and Deviance ($t = -1.57$, $p = 0.117$, two tail), and highly significant differences were obtained on the scale for Adult Maladjustment and Deviance ($t = -5.35$, $p = .000$, two tail).

The comparisons of the Angry with the Instrumentally Violent Offenders showed no significant differences; there was a slight trend for the Angry Violent to be somewhat higher than the Instrumentally Violent ($t = -1.44$, $p = .15$, two tail).

When the Repetitively Violent Offenders were compared with the One Violent Offense group, the former group was found to be significantly higher on both the scale for Child Maladjustment and Deviance ($t = -2.84$, $p = .004$, two tail) and on the scale for Adult Maladjustment and Deviance ($t = -3.15$, $p = .002$, two tail).

These significant findings are especially noteworthy because these measures reflect maladjustment and instability that is not confounded with the violent offenses. The scale of Childhood Maladjustment and Deviance obviously refers to events that took place many years before, and even the Adult Maladjustment and Deviance Scale deals with problem behaviors other than those involved in the offenses. Indeed, it will be recalled that the data on which the ratings were based were obtained when the Violent subjects were youthful offenders in a federal institution, before many of them had committed their violent crimes.

Minnesota Multiphasic Personality Inventory

Method. The Minnesota Multiphasic Personality Inventory (MMPI) was the first test administered to all inmates after the entered the institution. The MMPIs were scored on the standard validity and clinical scales. In addition, three more global measures were also used, Average Elevation, Sines and Silver's (1963) Index of Psychopathology (Ip), and Wiggins' content scale Psychoticism (PSY). According to Greene (1980, p. 181), "High PSY admits to a number of classic psychotic symptoms of a primarily paranoid nature. He admits to hallucinations, strange experiences, loss of control, and classic paranoid delusions of grandeur and persecution. He admits to feelings of unreality, day-dreaming, and a sense that things are wrong, while feeling misunderstood by others." The same basic comparisons were made as in the previous section.

Results. The results of these analyses are presented in Tables 8-2, 8-3 and 8-4. There was no significant difference in the Average Elevation of the MMPI between the Violent and Nonviolent Offenders, nor did the differences on any of the individual clinical scales attain significance. There was a slight trend for the Violent Offenders to be higher on Scale 4 ($t = -1.70$, $p = .089$, two tail) and Scale 9 ($t = -1.80$, $p = .071$, two tail). The Violent Offenders did obtain significantly higher scores on the Psychoticism Scale ($t = -2.21$, $p = .027$, two tail). Even though these are scales associated with acting out, in view of the large number of inter-related variables tested it is probably safest to interpret these differences cautiously.

Two of the validity scales did attain conventional levels of significance. The Nonviolent Offenders were higher on the L Scale ($t = 2.66$, $p = .008$, two tail) while the Violent Offenders were higher on Scale K ($t = -2.02$, $p = .044$, two tail). However, the magnitude of the mean differences was small, and with the results being inconsistent these, too, may well have been due to chance.

Chance differences probably also account for the one "significant" finding when the Angry and Instrumentally Violent Offenders were compared on the 16 MMPI scales. The Instrumentally Violent Offenders were assessed as being significantly higher than the Angry Violent offenders on Scale 5 ($t = -2.25$, $p = .02$, two tail) with the Instrumental group scoring in the more feminine direction.

As has been the case throughout, the comparisons of the Single Violent Offense group with the Repetitively Violent Offenders proved to be the most fruitful; eight of the 16 comparisons attained probabilities of .055 or less. On the overall Average Elevation variable, the Repetitively Violent Group had a mean

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score significantly higher than the Single Violent group ($t = -2.43$, $p = .016$, two tail). The significant difference on this overall variable allows us to examine the remaining scale differences without being too concerned about family-wise errors.

On the standard MMPI scales, the Repetitively Violent Group scored higher than the Single Violent group on Scales K ($t = -1.95$, $p = .052$, two tail), Hs \pm .5K ($t = -2.02$, $p = .044$, two tail), a finding that was previously presented in the section of physical health, D ($t = -1.92$, $p = .055$, two tail), Pd \pm .4K ($t = -2.14$, $p = .033$, two tail), Pt \pm 1K ($t = -2.37$, $p = .018$, two tail), Sc \pm 1K ($t = -2.86$, $p = .004$, two tail), and Ma \pm .2K ($t = -2.13$, $p = .034$, two tail). There were also noteworthy trends on the MMPI Index of Psychopathology ($t = -1.84$, $p = .066$, two tail) and Psychoticism Scale ($t = -1.64$, $p = .102$, two tail), with the Repetitively Violent Offenders scoring in the more deviant direction on both.

These differences were despite the fact that the "One Off" Violent Offenders also had noteworthy elevations on these scales. Indeed the mean scores of the Repetitively Violent Offenders were above T-70 on two of the MMPI scales most closely associated with acting out, Scales 4 (Pd \pm .4K) and 8 (Sc \pm 1K). These differences are a further indication that the real deviance in this study is to be found among the Repetitively Violent Offenders.

PD/SO: "Psychopathy" and Intelligence as Factors in Violent Crime

Background and rationale. Heilbrun (1979) hypothesized that level of intelligence would serve as a cognitive variable moderating the relationship between a personality construct that he termed "psychopathy" and criminal violence. Using 76 White Georgia state prison inmates as his subject pool and the commitment offense as his criterion of violence, Heilbrun demonstrated that those who were high on psychopathy and low on IQ had a higher incidence of violence than those in the other three quadrants. The purpose of this study was to replicate and extend Heilbrun's study. First, instead of using merely the instant offense, the overall extent of violence in the criminal career was used. Second, Black as well as White inmates were studied. Third, the type of violent offense, Angry or Instrumental, was investigated.

Method. A detailed account of this complex investigation is included as Appendix 3, Begault's (1990) Master's Thesis entitled The relation of psychopathy and intelligence to violent crime. Heilbrun administered both the MMPI and CPI and used the difference between the T-scores on the Pd and So scales as his measure of psychopathy. Those whose difference scores were above the median, Heilbrun classified as psychopaths and those who were below were classified as non-psychopaths. For his measure of intelligence, Heilbrun used the IPAT Culture Free Intelligence

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Test. He divided his sample at IQ = 105 into high and low IQ subgroups.

Like Heilbrun, the present investigators used the Pd - So Index to measure of psychopathy, but the Beta was used instead of the of the IPAT as a measure of IQ (Begault, 1990; Begault, Carbonell & Megargee, 1991). Because Blacks and Whites differed significantly on the Pd - So measure, the sample was subdivided according to race, and different cutting scores were used for the two subgroups, 36 for the Blacks and 41 for the Whites. This yielded White samples consisting of of 89 low IQ/low psychopathy subjects, 121 high IQ/low psychopathy subjects, 88 low IQ/ high psychopathy subjects and 106 high IQ/high psychopathy subjects. Among the Blacks there were 51 low IQ/low psychopathy subjects, 44 high IQ/low psychopathy subjects, 51 low IQ/ high psychopathy subjects and 54 high IQ/high psychopathy subjects. These groups were compared with respect to their overall propensity to commit violent crimes as well as the relative frequency with respect to Angry and Instrumentally Violent offenses. Separate analyses were carried out for White and Black subjects using analyses of variance.

These findings are presented in detail in Appendix 3. Begault concluded, "...the relationship between intelligence, psychopathy and violent crime is strongly dependent on subject and offense characteristics, such as race, and frequency of violent offenses and type of violent offenses committed" (1990, p. 101). Summarizing these findings, among White subjects there was an association of Instrumental and Potential violence with IQ and psychopathy, with the low IQ/high psychopathy Whites being more likely to commit such offenses. Among Blacks, however, violent offending was more closely related to IQ than psychopathy, with high IQ Blacks being found to be more likely to be involved in Instrumentally Violent crimes (Begault, 1990; Begault, Carbonell & Megargee, 1991).

Summary. The data regarding the association of violent crimes with mental health measures showed significant differences between Nonviolent and Violent Offenders and between Single and Repetitively Violent offenders on a case history-based measure of Adult Maladjustment and Deviance; the Single and Repetitively Violent Offenders also differed on a case history-based measure of Childhood Maladjustment and Deviance as well as on a number of MMPI scales including the average elevation of the overall MMPI profile. Differences between Angry and Instrumentally Violent Offenders on these measures were minimal.

Replication and extension of a study by Heilbrun (1979) showed that among Whites, offenders low in IQ but high in psychopathy, as defined by an index based on the CPI Socialization (So) scale and the MMPI Psychopathic Deviate (Pd) scale, were more prone to Instrumentally Violent or Potentially Violent

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offenses than were subjects low in IQ but low in psychopathy, or subjects high in IQ and either high or low in psychopathy. Among Blacks, however, it was IQ rather than psychopathy that was associated with violence; ironically, it was the higher IQ Blacks who were more prone to commit Instrumentally Violent offenses. One implication of these findings is that further analyses are needed exploring differences between Blacks and Whites in the factors related to violent crimes. These analyses were also the first indicating that distinguishing Angry, Instrumental and Potential violence may have heuristic value (Begault, 1990; Begault, Carbonell & Megargee, 1991).

Table 8-1

Violent Crime and Mental Disorder:
Nonviolent vs. Violent Offenders

Values/Variables	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
Child and adolescent maladjustment & deviance	N	275	15.5	4.8	-1.57	.117
	V	479	16.1	5.1		
Adult maladjustment & deviance	N	283	24.2	6.1	-5.35	.00
	V	490	26.7	6.2		

Angry vs. Instrumentally Violent Offenders

Values/Variables	Type of Violence	N	Mean	S.D.	t- value	Prob.
Child and adolescent maladjustment & deviance	A	319	16.2	4.9	.95	.34
	I	105	15.6	5.5		
Adult maladjustment & deviance	A	325	26.9	6.0	1.44	.15
	I	107	25.8	6.7		

Offenders with One Violent Offense vs. Repetitively Violent Offenders

Values/Variables	Number of V.Charges	N	Mean	S.D.	t- value	Prob.
Child and adolescent maladjustment & deviance	1	184	15.25	4.9	-2.84	.004
	2+	294	16.62	5.2		
Adult maladjustment & deviance	1	191	25.57	6.21	-3.15	.002
	2+	298	27.39	6.10		

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Table 8-2

Association of Violent Crime with MMPI Scales
Violent vs. Nonviolent Offenders

MMPI Scale/Variable	Violent/ Nonviolent	N	Mean T-score	S.D.	t- value	Prob.
MMPI: Lie Scale	N	305	54.03	9.14	2.66	.008
	V	569	52.36	8.67		
MMPI: K scale	N	305	64.67	17.64	-2.02	.044
	V	569	67.32	18.91		
MMPI: F Scale	N	305	54.46	9.21	1.64	.101
	V	569	53.37	9.30		
MMPI: Hypochondriasis	N	305	58.19	12.58	-.53	.598
	V	569	58.69	13.46		
MMPI: Depression	N	305	62.87	12.91	-.96	.339
	V	569	63.74	12.80		
MMPI: Hysteria	N	305	59.72	9.69	.37	.714
	V	569	59.46	10.22		
MMPI: Psychopathic Deviate	N	305	72.69	10.58	-1.70	.089
	V	569	73.97	10.68		
MMPI: Masculinity- Femininity	N	305	58.34	10.41	1.06	.291
	V	569	57.59	9.83		
MMPI: Paranoia	N	305	61.19	13.19	-.44	.658
	V	569	61.61	13.51		
MMPI: Psychasthenia	N	305	61.79	12.47	-1.51	.131
	V	569	63.16	12.85		
MMPI: Schizophrenia	N	305	67.04	17.97	-1.45	.146
	V	569	68.90	18.11		
MMPI: Hypomania	N	305	66.50	11.25	-1.80	.071
	V	569	67.98	11.61		
MMPI: Social Introversion	N	305	51.85	9.13	-1.25	.212
	V	569	52.63	8.79		

Table 8-2 (continued)

Association of Violent Crime with MMPI
Violent vs. Nonviolent Offenders

MMPI Scale/Variable	Violent/ Nonviolent	N	Mean T-score	S.D.	t- value	Prob.
MMPI: Average Elevation	N	305	63.15	8.55	-1.25	.212
	V	569	63.91	8.64		
MMPI: Index of Psychopathology	N	305	38.79	22.45	-.96	.336
	V	569	40.35	22.96		
MMPI: Psychoticism	N	305	11.72	7.63	2.21	.027
	V	569	12.98	8.28		

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Table 8-3

Association of Violent Crime with MMPI Scales
Angry vs. Instrumental Offenders

MMPI Scale/Variable	Type of Violence	N	Mean T-score	S.D.	t-value	Prob.
MMPI: Lie Scale	A	394	52.5	8.4	-.24	.81
	I	111	52.7	9.8		
MMPI: K scale	A	394	67.6	19.4	.02	.98
	I	111	67.6	18.2		
MMPI: F Scale	A	394	53.4	9.4	.03	.97
	I	111	53.4	9.2		
MMPI: Hypochondriasis	A	394	59.0	13.7	.18	.86
	I	111	58.7	13.6		
MMPI: Depression	A	394	64.1	12.9	.30	.76
	I	111	63.6	13.2		
MMPI: Hysteria	A	394	59.5	10.7	.21	.83
	I	111	59.3	9.9		
MMPI: Psychopathic Deviate	A	394	73.6	10.5	-.12	.90
	I	111	73.8	10.5		
MMPI: Masculinity-Femininity	A	394	57.3	9.6	-2.25	.02
	I	111	59.6	9.6		
MMPI: Paranoia	A	394	61.7	13.4	-.07	.94
	I	111	61.8	14.2		
MMPI: Psychasthenia	A	394	63.4	13.1	-.09	.93
	I	111	63.5	12.9		
MMPI: Schizophrenia	A	394	69.2	18.0	-.33	.74
	I	111	69.9	18.4		
MMPI: Hypomania	A	394	68.1	11.5	.09	.93
	I	111	68.0	11.5		
MMPI: Social Introversi	A	394	52.8	8.9	.35	.72
	I	111	52.5	8.8		

Table 8-3 (continued)

Association of Violent Crime with MMPI
Angry vs. Instrumental Offenders

MMPI Variable /Scale	Type of Violence	N	Mean T-score	S.D.	t-value	Prob.
MMPI: Average Elevation	A	394	64.0	8.6	-.30	.77
	I	111	64.3	9.0		
MMPI: Index of Psychopathology	A	394	40.6	22.8	-.21	.83
	I	111	41.2	23.9		
MMPI: Psychoticism	A	394	13.1	8.4	-.42	.68
	I	111	13.4	8.2		

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Table 8-4

Association of Violent Crime with MMPI Scales
One Violent Offense vs Repetitively Violent Offenses

MMPI Scale/Variable	Number of Violent Charges	N	Mean T-score	S.D.	t-value	Prob.
MMPI: Lie Scale	1	220	54.47	8.99	.24	.813
	2+	348	52.30	8.48		
MMPI: K scale	1	220	65.40	18.70	-1.95	.052
	2+	348	68.56	18.99		
MMPI: F Scale	1	220	53.51	9.12	.31	.760
	2+	348	53.26	9.43		
MMPI: Hypochondriasis	1	220	57.25	12.71	-2.02	.044
	2+	348	59.59	13.87		
MMPI: Depression	1	220	62.45	12.64	-1.92	.055
	2+	348	64.56	12.86		
MMPI: Hysteria	1	220	58.88	9.85	-1.06	.289
	2+	348	59.82	10.46		
MMPI: Psychopathic Deviate	1	220	72.76	11.26	-2.14	.033
	2+	348	74.73	10.26		
MMPI: Masculinity-Femininity	1	220	58.22	9.85	1.18	.239
	2+	348	57.22	9.81		
MMPI: Paranoia	1	220	61.06	13.73	-.83	.406
	2+	348	62.03	13.59		
MMPI: Psychasthenia	1	220	61.56	12.59	-2.37	.018
	2+	348	64.17	12.94		
MMPI: Schizophrenia	1	220	66.18	17.86	-2.86	.004
	2+	348	70.62	18.10		
MMPI: Hypomania	1	220	66.69	12.11	-2.13	.034
	2+	348	68.81	11.23		
MMPI: Social Introversion	1	220	51.89	8.12	-1.63	.103
	2+	348	53.13	9.12		

Table 8-4 (continued)

Association of Violent Crime with MMPI
One Violent Offense vs. Repetitively Violent Offenses

MMPI Scale/Variable	Violent/ Nonviolent	N	Mean T-score	S.D.	t- value	Prob.
MMPI: Average Elevation	1	220	62.81	8.67	-2.43	.016
	2+	348	64.61	8.57		
MMPI: Index of Psychopathology	1	220	38.16	22.77	-1.84	.066
	2+	348	41.79	23.01		
MMPI: Psychoticism	1	220	12.27	8.14	-1.64	.102
	2+	348	13.45	8.35		

Chapter 9:

Education and Cognitive Ability and Violent Criminal Behavior

Background and rationale

After the family, the school is the primary agent for the transmission of knowledge and cultural values in Western society. Schools are supposed to provide students with the tools needed to seek and profit from further education and, eventually, to obtain legitimate gainful employment and become a self-supporting members of society. In the process, they attempt to socialize children, transmitting the values and precepts valued by the larger society that controls the schools and dictates the curricula. In particular, schools attempt to teach students what society expects its citizens to do and, even more so, what behaviors society expects its citizens to refrain from doing.

Failure to achieve these goals can yield a person who is predisposed to criminal behavior in general and, perhaps, violence in particular (Wilson & Herrnstein, 1985). As already noted, frustration has been cited as the primary cause of instigation to aggression (Dollard et al., 1939), and few life experiences are as frustrating as being exposed to chronic school failure day after day throughout one's formative years. As Wilson and Herrnstein (1985, p. 171) noted, "A child who chronically loses standing in the competition of the classroom may feel justified in settling the score outside, by violence, theft, and other forms of illegality." On the other hand, a successful school experience enhances one's self esteem, and provides the tools needed for legitimate vocational achievement. Such success not only operates to reduce and compensate for frustrations that might otherwise produce instigation to aggression, but also success tends to give one a stake in the community; according to Wilson and Herrnstein's (1985) framework, the more one has to lose, the less likely one is to engage in criminal behavior.

The interaction between educational achievement and criminal behavior is more complex than it may first appear. Like Wilson and Herrnstein (1985), most regard poor school performance as a likely cause of delinquency and deviance (cf. Cohen, 1955; McCandless, 1967). However, the relationship works both ways. Being labeled a juvenile delinquent can lead to difficulties in school including suspension and expulsion (Becker, 1964), from which, as Lemert (1967) pointed out, secondary deviance and delinquency can result.

Most criminological research on educational and cognitive variables has focused on juvenile delinquents rather than adult offenders, and most researchers have contrasted delinquents with

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nondelinquents (Glueck & Glueck, 1950). The question posed in the present investigation is whether educational and cognitive factors differ among criminal groups, specifically if there are differences between Violent and Nonviolent Offenders.

As noted in the previous chapter, Heilbrun (1979) reported a violent offending was linked to psychopathy and verbal intelligence. The present investigators (Begault, 1990; Begault, Carbo-nell & Megargee, 1991) found a similar association among White subjects, at least with respect to Instrumental and Potential Violence, while, among Black offenders, instrumental violence was related to IQ but not psychopathy.

Wilson and Herrnstein (1985) reported a link between verbal abilities and violence. According to their review of the literature, violent offenders tend to have lower verbal IQs than nonviolent, property, offenders. One ex post facto explanation of this association is that people with more verbal skills experience less frustration; another is that they have a greater repertoire of nonviolent behaviors they can use to express anger.

However, Wilson and Herrnstein's observation was based in part on a faulty premise. In an earlier study of the present cohort (Megargee & Bohn, 1979, p. 156), it was reported that the mean Beta IQ of the research cohort was 101.1. Noting that, "The prisoners in a federal institution of this type are, on the average, atypically nonviolent...", Wilson and Herrnstein (1985, p. 166) contrasted this with the lower IQs obtained by other investigators in samples that presumably had a higher proportion of violent offenders to support their contention that nonviolent offenders have lower IQs than violent offenders. Of course, we now know that many of these "property offenders" have since been arrested for violent offenses. This provided a further incentive to investigate whether there is in fact a difference in tested intellectual ability between the violent and nonviolent members of the cohort.

Method

To investigate the association of academic and intellectual variables and violence in the present investigation, data were drawn from several sources. As noted above, the nonverbal Beta IQ was available on most subjects. In addition, the General Aptitude Test Battery (GATB) and the Stanford Achievement Test had been administered; the General score from the GATB and the SAT median were used along with the Beta IQ.

Two variables derived from the Bureau of Prisons' record forms reflected actual educational attainment: the Highest Grade Attained and the Age at Completion of the Highest Grade. From the Intake Interview, two scales were selected, School Problems and Adjustment and Achievement Orientation, and two similar

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scales, School Problems and Achievement Motivation were chosen from the PSI. The two measures of Achievement, it should be noted, included achievement motivation manifested in employment and military settings as well as in school.

Finally, several personality inventory scales dealing with traits related to educational achievement were analyzed. They included the MMPI Underachiever Scale (Un) (McQuary & Truax, 1955) and the California Psychological Inventory's Capacity for Status (Cs), Achievement via Conformance (Ac), Achievement by Independence (Ai), and Intellectual Efficiency (Ie) scales.

Results

Violent vs. Nonviolent offenders. The differences between the Nonviolent and Violent Offenders on the Cognitive and Education variables are presented in Table 9-1. Significant differences were obtained on 11 of the 14 comparisons; interestingly, in view of Wilson and Herrnstein's (1985) analysis reported above, one of the few variables that did not differ significantly was the Beta IQ.

The Nonviolent Offenders stayed in school significantly longer ($t = 4.00$, $p = .000$, two tail) and attained a significantly higher grade level ($t = 3.20$, $p = .001$, two tail) than the Violent Offenders. On the SAT, the Nonviolent Offenders obtained a significantly higher Median ($t = 4.68$, $p = .000$, two tail) and on the GATB, the Nonviolent Offenders earned a significantly higher General score ($t = 3.03$, $p = .003$, two tail). It should be noted that the difference on this GATB was not because of any deficiency on the part of the Violent Offenders; their score of 102.8 was average. Instead the difference stemmed from the high average (109.37) score of the Nonviolent group.

Turning to the Interview and PSI scales assessing School Problems and Achievement, significant differences were obtained on three of the four measures, the Interview scales of School Problems and Adjustment ($t = -3.74$, $p = .000$, two tail) and Achievement Orientation ($t = -3.47$, $p = .001$, two tail), and the PSI scale of Achievement Motivation ($t = -3.46$, $p = .001$, two tail).

Turning to the personality scales, no significant difference was found on the MMPI Underachiever scale. However, all four of the California Psychological Inventory scales showed significant differences. The Nonviolent Offenders were significantly higher than the Violent Offenders on the CPI's Capacity for Status (Cs) Scale ($t = 2.25$, $p = .027$, two tail), Achievement via Conformance (Ac) Scale ($t = 1.99$, $p = .047$, two tail), Achievement by Independence (Ai) Scale ($t = 2.30$, $p = .021$, two tail), and Intellectual Efficiency (Ie) Scale ($t = 2.99$, $p = .003$, two tail).

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Angry vs. Instrumental Violent Offenders. Only two measures significantly differentiated between the Angry and Instrumentally Violent Offenders. (See Table 9-2. The Instrumentally Violent were higher on the Highest Grade Attended ($t = 2.25$, $p = .027$, two tail), and on the Interview scale of Achievement Orientation ($t = -2.30$, $p = .022$, two tail).

Single vs. Repetitively Violent Offenders. Nine of the 14 comparisons of Single with the Repetitively Violent Offenders attained significance, with the "One Off" Violent Offenders continuing to obtain the more favorable assessments. The men charged with but a single violent offense had attained a significantly higher grade level ($t = 2.28$, $p = .023$, two tail), and obtained significantly higher GATB General scale scores ($t = 2.81$, $p = .005$, two tail) and higher SAT Median scores ($t = 4.01$, $p = .000$, two tail) than the offenders with two or more violent offenses.

Similarly, the Single Violent Offenders had significantly fewer School Problems on both the Intake Interview ($t = -2.92$, $p = .004$, two tail) and the PSI ($t = -2.81$, $p = .005$, two tail). The scales assessing Achievement motivation, which included employment as well as educational items, also showed higher scores for the Single Violent Offenders on both the Interview ($t = 3.49$, $p = .001$, two tail) and the PSI ($t = 4.10$, $p = .000$, two tail).

The differences were less pronounced on the personality test measures. The Single Violent Offenders had higher scores on the CPI Achievement via Conformance (Ac) ($t = 1.93$, $p = .054$, two tail) and Intellectual Efficiency (Ie) ($t = 2.41$, $p = .016$, two tail) Scales. (See Table 9-3).

Discussion. The differences among these criminal groups were more pronounced with respect to these educational and cognitive variables than among any other data set thus far examined. The Nonviolent Offenders were consistently assessed on a number of different measures as having achieved a greater measure of educational success than the Violent Offenders, and, among the Violent Offenders, those charged with but a single violent offense had attained more educational success than those who became Repetitively Violent. It is important to note that these differences were obtained among different groups of adult offenders rather than by contrasting violent offenders with noncriminal subjects or by focusing on juveniles for whom school is a more immediate factor in their lives.

These findings are especially noteworthy because, in this longitudinal study, the school performance and educational accomplishments, as well as the test measures, generally preceded the violent behavior since, at the time the data were collected, few of these federal youthful offenders had yet committed any violent

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offenses. This temporal relationship strengthens the argument that educational success helps buffer an individual against violent crime, even though he may commit other criminal offenses, and, conversely, school problems and failures appear to make criminal offenders more likely to engage in violence.

Comparing these findings with others reported thus far, it appears that the variance contributed by an offender's success or failure in the educational system is at least as important as familial factors or mental instability in its relation to subsequent violent criminal behavior.

Summary. The measures of intellectual and cognitive abilities, achievement orientation and educational accomplishments showed numerous statistically significant differences between the Nonviolent and Violent Offenders as well as between the Single and Repetitively Violent criminals. In these comparisons the Nonviolent and the "One Off" Offenders were consistently assessed as having achieved significantly higher grade levels, and higher General Aptitude Test Battery General Scale scores as well as higher Stanford Achievement Test Median scores. However, there were no differences in Beta IQs, suggesting that the differences lay chiefly verbal skills. In addition, these groups manifested more achievement motivation and fewer problems in behavior and adjustment in the school setting than their counterparts.

For the Nonviolent Offenders, especially, the CPI scales reflecting achievement and intellectual efficiency were also significantly superior to the scores attained by the Violent Offenders, although the means for both groups were below average when compared with national norms. The differences were less pronounced when the Single Violent Offenders were contrasted with the Repetitively Violent Offenders. As usual the differences between the Angry and the Instrumentally Violent Offenders were less apparent, although the latter group was assessed as being better on Highest Grade and Achievement Orientation.

Table 9-1

Cognitive and Education Variables and Violence
Violent vs. Nonviolent Offenders

Cognitive or Education Variable	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
Highest Grade Attended	N	305	10.14	2.17	3.20	.001
	V	569	9.52	2.19		
Age at Completion of Highest Grade	N	309	17.30	2.21	4.00	.000
	V	524	16.68	2.04		
SAT Median	N	295	79.13	27.11	4.68	.000
	V	501	70.51	23.42		
General Aptitude Test Battery (GATB)	N	279	109.37	22.34	3.03	.003
	V	477	102.80	19.72		
Beta IQ Score	N	285	100.33	14.50	-.87	.382
	V	499	101.28	14.21		
School Problems and Adjustment: Interview	N	270	34.66	9.40	-3.74	.000
	V	476	37.21	9.64		
Achievement Orientation: Interview	N	270	34.14	8.60	3.47	.001
	V	475	32.14	7.62		
School Problems: PSI	N	283	6.72	2.92	-1.26	.209
	V	493	7.00	2.91		
Achievement Motivation PSI	N	287	13.50	4.39	3.46	.001
	V	486	12.50	3.57		
MMPI Underachiever	N	282	10.85	2.09	.12	.908
	V	494	10.83	2.18		
CPI Capacity for Status	N	305	45.92	11.72	2.25	.027
	V	521	44.10	11.00		

Table 9-1 (continued)

Cognitive and Education Variables and Violence
Violent vs. Nonviolent Offenders

Cognitive or Education Variable	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
CPI Achievement via Conformance	N V	305 521	42.34 40.48	13.16 12.84	1.99	.047
CPI Achievement via Independence	N V	305 521	45.90 44.02	11.15 11.44	2.30	.021
CPI Intellectual Efficiency	N V	305 521	40.15 37.07	14.95 13.90	2.99	.003

Table 9-2

Cognitive and Education Variables and Violence
Angry vs. Instrumentally Violent Offenders

Cognitive or Education Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
Highest Grade Attended	A	347	9.36	2.25	-2.69	.007
	I	102	10.01	1.74		
Age at Completion of Highest Grade	A	341	16.68	2.05	.14	.887
	I	100	16.65	2.11		
SAT Median	A	339	69.60	23.76	-2.4	.807
	I	102	70.24	21.19		
General Aptitude Test Battery (GATB)	A	159	102.68	20.58	.19	.847
	I	47	102.04	17.34		
Beta IQ Score	A	341	101.24	14.72	.15	.884
	I	96	101.00	12.73		
School Problems and Adjustment: Interview	A	370	37.43	9.21	.75	.457
	I	116	36.69	9.70		
Achievement Orientation: Interview	A	363	31.46	7.35	-2.30	.022
	I	113	33.30	7.58		
School Problems: PSI	A	301	7.12	2.92	1.04	.298
	I	98	6.76	2.93		
Achievement Motivation PSI	A	323	12.41	3.59	-.24	.811
	I	106	12.50	3.39		
MMPI Underachiever	A	394	10.88	2.10	.08	.937
	I	111	10.86	2.34		
CPI Capacity for Status	A	348	43.65	11.27	-1.74	.083
	I	113	45.72	10.06		

Table 9-2 (continued)

Cognitive and Education Variables and Violence
Angry vs. Instrumentally Violent Offenders

Cognitive or Education Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
CPI Achievement via Conformance	A I	348 113	40.38 41.29	12.80 12.63	-.66	.509
CPI Achievement via Independence	A I	348 113	44.07 44.77	11.84 10.09	-.56	.573
CPI Intellectual Efficiency	A I	348 113	37.09 36.84	14.08 13.27	.17	.869

Table 9-3

Cognitive and Education Variables and Violence
One Violent Offense vs. Repetitively Violent Offenses

Cognitive or Education Variable	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
Highest Grade Attended	1	198	9.79	2.26	2.28	.023
	2+	204	9.34	2.13		
Age at Completion of Highest Grade	1	194	16.86	1.94	1.57	.118
	2+	298	16.56	2.11		
SAT Median	1	197	75.67	23.62	4.01	.000
	2+	297	67.17	22.68		
General Aptitude Test Battery (GATB)	1	106	106.70	19.36	2.81	.005
	2+	126	99.51	19.48		
Beta IQ Score	1	184	101.78	13.92	.54	.590
	2+	308	101.07	14.30		
School Problems and Adjustment: Interview	1	210	35.69	9.96	-2.92	.004
	2+	334	38.16	9.33		
Achievement Orientation: Interview	1	207	33.58	7.81	3.49	.001
	2+	325	31.24	7.37		
School Problems: PSI	1	174	6.52	2.95	-2.81	.005
	2+	273	7.31	2.85		
Achievement Motivation PSI	1	188	13.32	3.92	4.10	.000
	2+	297	11.98	3.23		
MMPI Underachiever	1	220	10.95	2.25	1.11	.270
	2+	348	10.75	2.13		
CPI Capacity for Status	1	208	44.85	11.37	1.31	.191
	2+	312	43.56	10.74		

Table 9-3 (continued)

Cognitive and Education Variables and Violence
One Violent Offense vs. Repetitively Violent Offenses

Cognitive or Education Variable	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
CPI Achievement via Conformance	1	208	41.80	13.54	1.93	.054
	2+	312	39.58	12.30		
CPI Achievement via Independence	1	208	44.30	12.02	.48	.630
	2+	312	43.81	11.07		
CPI Intellectual Efficiency	1	208	38.85	14.00	2.41	.016
	2+	312	35.87	13.76		

Chapter 10:

Vocational Adjustment and Work Attitudes and Violent Criminal Behavior

Background and rationale

Whereas the nuclear developmental family and the school act as strong socializing agents, by the time people seek gainful employment their attitudes and values are usually well formed. It is hard to overestimate the potential importance of legitimate occupational and vocational success or failure to the development and maintenance of criminal behavior patterns. Not only can vocational failures and rejections create angry instigation via the frustration-aggression mechanism, but also as Merton (1938; 1957) and other "strain" theorists have pointed out, people who are blocked from legitimate avenues of achievement may resort to illegitimate avenues, including instrumentally motivated violent acts such as robbery.

Legitimate success can offset criminal behavior in at least two ways. First, people with fulfilling and rewarding jobs should have fewer frustrations, and, other things being equal, less instigation to aggression. Moreover, the larger the stake they have in the community, the more they risk losing by engaging in criminal behavior (Wilson & Herrnstein, 1985). Thus, vocational success can help foster inhibitions against engaging in violence.

Criminologists and other social scientists, as well many everyday citizens, have argued for decades that unemployment and inadequate job skills lead young men to turn to crime. Indeed, the hope of offsetting poverty-driven criminal behavior has been the driving force behind numerous programs ranging from Headstart to Job Corps. But what about violent crime? There is little evidence of a clear causal link between vocational success or failure and violent criminal behavior. As with school success and IQ, vocational achievement can act as a proxy for many other variables. Although it is beyond the scope of this investigation to establish the exact nature of any causal links, it would be helpful to determine whether the early vocational attitudes and attainments of youthful offenders who become violent adult criminals differ from those who remain nonviolent.

Method

Several sources of data relevant to employment attitudes and adjustment (but not actual abilities or skills) were used in evaluating these relationships. The first, derived from the Bureau of Prisons records, was the number of months the offender had been employed at the time he was arrested; the second was the number of months his longest job had lasted. Unfortunately, among

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youthful offender these variable are naturally less reliable and meaningful than they would be with an older sample.

Another source of data was the MMPI (negative) Work Attitude (Wa) scale (Tydlaska & Mengel, 1953). This 37 item scale consists of items complaining about working conditions, diminished ability to work effectively and the perceived unfairness of employers.

Both the PSI and the Structured Interview had scales relating to employment. The Intake Interview scale Negative Work Attitudes consisted of items dealing with the inmates' employment histories such as whether they had ever been laid off, reprimanded, or fired as opposed to having been praised or commended. General attitudes toward work and supervisors as reflected in the overall interview were also included. The PSI scale Employment Problems dealt with ratings of employment stability and motivation noted in the probation report. High scores on this scale indicated a person who worked hard, sought opportunities for advanced training and received favorable reports and commendations from superiors.

During the course of their incarceration, many inmates were assigned jobs in the institution and their performance was rated at regular intervals on Work Performance Rating Scales that were developed for that purpose (Megargee, 1972b; Fowler & Megargee, 1976). In the present study a global measure representing the sum of the nine five-point rating scales filled out by the work crew supervisors at the end of the first and second 90 days of incarceration were used.

Results

Violent vs. Nonviolent Offenders. The comparisons of the Nonviolent with the Violent Offenders are presented in Table 10-1. The Nonviolent Offenders had significantly lower scores on the MMPI (negative) Work Attitudes Scale ($t = -2.26$, $p = .024$, two tail) and significantly higher scores on the PSI Employment Scale ($t = -2.73$, $p = .007$, two tail). These two scales, along with a noteworthy trend toward more months on the job in the course of the longest work experience ($t = -1.79$, $p = .073$, two tail), all indicated that the Nonviolent Offenders had better vocational experiences and attitudes as youthful offenders than did the Violent Offenders.

Angry vs. Instrumental Violent Offenders

The comparison of the Angry with the Instrumentally Violent Offenders on these work-related measures appears in Table 10-2. The two subgroups received virtually the same mean scores on most of the scales and none of the comparisons remotely approached significance. There is clearly no support in these data for the notion that vocational problems are more important among those

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offenders charged with Instrumentally Violent offenses.

Single vs. Repetitively Violent Offenders

The results for the comparisons of the Single with the Repetitively Violent Offenders, presented in Table 10-3, closely resembled the findings for the Nonviolent versus the Violent Offenders with the differences on the MMPI (negative) Work Attitudes ($t = -2.15$, $p = .032$, two tail) and the PSI Employment Scales ($t = -4.37$, $p = .000$, two tail) attaining significance. In both comparisons it was the Single Violent Offenders who had the more favorable scores.

Discussion. In terms of the conceptual framework guiding this investigation, it does not appear that the differences in work attitudes or accomplishments that were found can be used to argue that these offenders differed in frustration or instigation to aggression, especially in view of the failure to find any differences between the Angry and Instrumental group. It appears more plausible to regard these data as being similar in nature to the differences among the groups with regard to socialization and acculturation as described in Chapter 6. It will be recalled that the data presented in Chapter 6 showed the "One Off" Violent Offenders scored significantly higher than the Repetitively Violent Offenders on the CPI Scales for Responsibility, Socialization and Communality (qualities that would also stand them in good stead in employment settings). While their absolute scores on those scales did not indicate that the "One Off" Violent Offenders were likely to be strong contenders for their communities' "Outstanding Citizen" awards, the combination of those attributes in conjunction with the better work ethic and vocational values demonstrated in this chapter indicates that their lesser degree of violence is more likely to result from stronger inhibitions than it is from less instigation.

Summary. In the investigation of the relation between vocational attitudes and achievement with violent criminal behavior, previous work history as recorded in the Bureau of Prisons forms and work performance within the institution did not differentiate among the various groups. Nor did the attitudes regarding work expressed in the Intake Interviews to the psychologists differ. However, on an MMPI scale reflecting negative work attitudes and on the Presentence Investigation report scale assessing previous employment performance, the Nonviolent Offenders were found to be significantly better than the Violent Offenders; moreover, among the Violent Offenders, those men who had been charged with but a single violent offense in the course of the careers were assessed as youthful offenders as having significantly better work attitudes and employment histories than those who were found on follow-up to have been charged with two or more violent crimes. Angry and Instrumentally Violent Offenders did not differ among themselves on any of the work-related measures.

Table 10-1

Early Vocational Adjustment and Violence
Violent vs. Nonviolent Offenders

Vocational Variable	Violent/ Nonviolent	N	Mean	S.D.	t-value	Prob.
Number of months on job at time of arrest	N	132	16.87	21.08	-.13	.900
	V	236	17.13	18.29		
Number of months on longest work experience	N	212	25.54	28.41	1.79	.073
	V	341	21.91	19.14		
MMPI Work Attitude	N	305	12.36	5.86	-2.26	.024
	V	569	13.31	5.91		
Negative Work Attitudes: Interview	N	301	16.03	3.20	-1.28	.202
	V	528	16.34	3.46		
Employment: PSI	N	275	12.96	3.92	2.73	.007
	V	478	12.21	3.45		
Global Work Adjustment, 1st 90 days in prison	N	205	48.20	9.45	-.21	.837
	V	355	48.36	9.01		
Global Work Adjustment , 2nd 90 days in prison	N	121	50.08	9.53	.42	.676
	V	182	49.62	9.34		

Table 10-2

Early Vocational Adjustment and Violence
Angry vs. Instrumentally Violent Offenders

Vocational Variable	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
Number of months on job at time of arrest	A	166	17.40	18.44	1.00	.317
	I	42	14.29	16.14		
Number of months on longest work experience	A	238	21.92	18.94	.36	.723
	I	60	20.95	18.40		
MMPI Work Attitude	A	394	13.22	6.02	-.38	.701
	I	111	13.46	5.50		
Negative Work Attitudes: Interview	A	359	16.26	3.41	-.88	.380
	I	111	16.58	3.58		
Employment: PSI	A	319	12.13	3.49	.05	.962
	I	103	12.12	3.11		
Global Work Adjustment, 1st 90 days in prison	A	235	48.09	9.13	-.05	.963
	I	79	48.14	8.94		
Global Work Adjustment , 2nd90 days in prison	A	120	49.29	9.26	.01	.993
	I	47	49.28	9.43		

Table 10-3

Early Vocational Adjustment and Violence
One Violent Offense vs. Repetitively Violent Offenses

Vocational Variable	Number of Violent Charges	N	Mean	S.D.	t-value	Prob.
Number of months on job at time of arrest	1	94	16.31	16.78	-.56	.573
	2+	142	17.68	19.26		
Number of months on longest work experience	1	140	22.27	18.22	.29	.769
	2+	201	21.65	19.80		
MMPI Work Attitude	1	220	12.64	5.58	-2.15	.032
	2+	320	13.73	6.08		
Negative Work Attitudes: Interview	1	207	16.31	3.57	-.10	.923
	2+	320	16.34	3.40		
Employment: PSI	1	183	13.07	3.70	4.37	.000
	2+	294	11.67	3.17		
Global Work Adjustment, 1st 90 days in prison	1	144	48.49	8.98	.22	.823
	2+	210	48.27	9.08		
Global Work Adjustment, 2nd 90 days in prison	1	74	49.78	10.02	.22	.829
	2+	107	49.48	8.93		

Chapter 11:

Social Skills, Interpersonal Relations and Violent Criminal Behavior

Background and Rationale

Sigmund Freud reportedly maintained that the two major themes of an adult's life are "Leben und arbeiten," love and work. Having examined the vocational attitudes and attainments of our violent and nonviolent offenders, let us turn our attention to the nature and the quality of their interpersonal relationships. In this chapter, the general nature of their interpersonal and social relationships will be examined. In the next chapter, aggressive and hostile interactions and attitudes will be explored.

Method

To investigate the nature and quality of the subjects' interpersonal relationships, data from a variety of sources was utilized. From the MMPI, two scales were selected, Pantou's (1958) Adjustment to Prison Scale and Wiggins' (1966) Social Maladjustment content scale. From the CPI, three Factor Two scales, Dominance (Do), Sociability (Sy), and Social Presence (Sp) were selected, along with Nichols and Schnell's (1963) Person Orientation factor scale which is supposed to assess the variance common to CPI Factor Two. This array of scales should indicate if the samples differed systematically with respect to introversion-extraversion, their ability to get along with other people or their general enjoyment of and effectiveness in interpersonal relationships. Moreover, on those scales for which national norms are available, it is possible to get some idea of the absolute as well as the relative level of social skills and interpersonal effectiveness.

As noted earlier, each inmate was administered as semi-structured Intake Interview by his team psychologist. These interviews lasted about an hour and covered a wide range of topics; the psychologist was free to depart from the schedule at any time to pursue topics that appeared fruitful. Immediately following the interview, the psychologists repaired to a room with a large table; there they completed a 76-item Q-Sort describing their overall clinical impression of the client (Megargee & Bohn, 1979). As noted in Chapter 3, nine scales were constructed based on the Q-sort; three were selected for this phase of the study, Social Withdrawal, Sociability, and Social-Emotional Constriction.

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In addition, the Intake Interview content scale Problems in Interpersonal Relations was chosen. The items included in this scale reflected interpersonal difficulties in a wide variety of settings including difficulties with peers, one's spouse, problems in the work setting, the military and in previous imprisonments. A similar scale from the PSI, Problems in Interpersonal Relations, was also utilized.

The final source of data was the observations of the Dormitory Officers and Counselors are recorded on the Interpersonal Adjustment Rating Schedules they filled out quarterly using an instrument developed for that purpose (Megargee, 1972b; Fowler & Megargee, 1976). In the present study a global measure representing the sum of the eight five-point rating scales filled out by the dormitory staff at the end of the first and second 90 days of incarceration were used.

Results

Violent vs. Nonviolent Offenders. The results of the comparisons of the Violent and the Nonviolent Offenders on these 13 measures are presented in Table 11-1. There were no significant differences on any of the MMPI and CPI scales. The means of the groups on the three regular CPI Factor Two scales, Dominance (Do), Sociability (Sy), and Social Presence (Sp), showed that their scores were not especially deviant. On Sy and Sp, the means were close to T-50, while the Do scores were slightly lower. These data indicate that based on their self-reports, the Violent and Nonviolent Offenders did not differ systematically in their ability to relate to others, and that as a group they were not notably deficient in interpersonal skills.

Turning from the personality inventories to the data obtained from the Intake Interview and the case history, a somewhat different picture is obtained. Although they noted no differences in Social Withdrawal, the psychologists did evaluate the Nonviolent Offenders as being higher in Sociability ($t = 3.47$, $p = .001$, two tail) and lower in Social-Emotional Constriction ($t = -3.93$, $p = .000$, two tail) than the Violent Offenders. On the Intake Interview scale Interpersonal Difficulties with Peers, the Violent Offenders were assessed as having significantly more problems ($t = -3.12$, $p = .002$, two tail). This difference was confirmed on the PSI Problems in Interpersonal Relations Scale ($t = -5.12$, $p = .000$, two tail). Since information about the commitment offense was contained in the interview and case history, one might be tempted to dismiss these differences as artifacts on the assumption that the ratings of interpersonal difficulties were influenced by the behavior that brought them to FCI in the first place. However, it will be recalled that only 15 individuals in the cohort were initially committed for crimes against persons.

The final measures were the Interpersonal Adjustment Ratings

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by made by the Dormitory Officers during the first and second 90 day periods of incarceration. There was a slight tendency for the Nonviolent offenders to be rated more favorably during the first period ($t = 2.09$, $p = .116$, two tail) which became statistically significant during the second quarter ($t = 2.09$, $p = .034$, two tail).

Angry vs. Instrumental Violent Offenders. Turning to the comparisons of the Angry and Instrumentally Violent Offenders, which are presented in Table 11-2, no significant differences were obtained. The two marginal findings for the Instrumentally Violent Offenders to be somewhat higher on the CPI Dominance Scale ($t = -1.74$, $p = .083$, two tail) and Sociability Scale ($t = -1.88$, $p = .060$, two tail) are about the number and the level one would expect on the basis of chance.

Single vs. Repetitively Violent Offenders. There were no differences between the Single and Repetitively Violent Offenders on any of the inventory scales or the Q-sort measures. However, the men charged with only one violent offense were assessed on the Intake interview as having significantly fewer Interpersonal Difficulties with Peers ($t = -2.01$, $p = .045$, two tail) and on the PSI as having significantly fewer Problems with Interpersonal Relations ($t = -3.47$, $p = .001$, two tail). Although there were no discernible differences in adjustment during the first 90 days of incarceration, during the second 90 day period, the Dormitory Officers assessed the Single Violent Offenders as being significantly better adjusted and easier to work with ($t = 2.43$, $p = .016$, two tail).

Summary. With regard to interpersonal relations, no differences were found on the personality inventory scales assessing social skills and sensitivities. However, the psychologists rated the Nonviolent Offenders as being more sociable and less constricted than the Violent Offenders, and on the Intake Interview and the PSI the Nonviolent Offenders were assessed as having fewer interpersonal difficulties. The Dormitory Officers also assessed them as being better adjusted and having fewer interpersonal problems during the second 90 days of imprisonment.

When the Violent Offenders were subdivided into Angry and Instrumentally Violent groups, once again no differences were noted. However, when they were subdivided into those with Single as opposed to Multiple charges, the "One Off" Violent group was assessed as having fewer interpersonal difficulties than the Multiply Violent Offenders on the Intake Interview and PSI scales as well as on the Interpersonal Adjustment Ratings made by the staff during the second 90 days.

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Table 11-1

Association of Violent Crime with Social Skills and Interpersonal Relations
Violent vs. Nonviolent Offenders

Variable	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
MMPI Adjustment to Prison	N	305	15.01	3.41	.25	.801
	V	569	14.95	3.37		
MMPI Social Maladjustment	N	305	9.50	5.28	-.08	.940
	V	569	9.54	5.12		
CPI Dominance	N	305	46.19	11.75	1.79	.074
	V	521	44.71	11.29		
CPI Sociability	N	305	48.50	10.97	1.50	.134
	V	521	47.32	10.78		
CPI Social Presence	N	305	50.23	11.63	.95	.343
	V	521	49.46	11.11		
CPI Person Orientation	N	305	31.21	8.12	.73	.467
	V	521	30.81	7.41		
Q-Sort: Social Withdrawal	N	309	49.72	10.15	-.53	.598
	V	558	50.09	9.92		
Q-Sort: Sociability	N	309	51.19	10.65	3.47	.001
	V	558	48.72	9.66		
Q-Sort: Social -Emotional Constriction	N	309	48.61	10.52	-3.93	.000
	V	558	51.43	9.87		
Interpersonal Difficulties with Peers: Interview	N	217	21.96	5.61	-3.12	.002
	V	395	23.47	5.81		
Problems with Interpersonal Relations: PSI	N	287	8.54	2.84	-5.72	.000
	V	494	9.84	3.16		
Global Dorm Adjustment, 1st 90 Days	N	181	50.23	9.52	1.58	.116
	V	302	48.87	8.92		
Global Dorm Adjustment, 2nd 90 Days	N	172	50.91	9.50	2.09	.034
	V	250	48.79	10.64		

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Table 11-2

Association of Violent Crime with Social Skills
Angry vs. Instrumentally Violent Offenders

Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
MMPI Adjustment to Prison	A	394	14.92	3.46	.10	.922
	I	111	14.88	3.22		
MMPI Social Maladjustment	A	394	9.64	5.17	.51	.613
	I	111	9.36	5.03		
CPI Dominance	A	348	44.07	11.22	-1.74	.083
	I	113	46.16	10.70		
CPI Sociability	A	348	46.72	10.65	-1.88	.060
	I	113	48.91	10.96		
CPI Social Presence	A	348	49.28	11.11	-.62	.533
	I	113	50.03	11.06		
CPI Person Orientation	A	348	30.49	7.26	-1.44	.151
	I	113	31.64	7.53		
Q-Sort: Social Withdrawal	A	377	50.02	9.99	-.91	.364
	I	118	50.98	10.06		
Q-Sort: Sociability	A	377	48.41	9.62	-1.02	.308
	I	118	49.45	9.82		
Q-Sort: Social -Emotional Constriction	A	377	51.68	9.80	.61	.543
	I	118	51.05	9.56		
Interpersonal Difficulties with Peers: Interview	A	273	23.40	5.79	.02	.985
	I	76	23.38	5.47		
Problems with Interpersonal Relations: PSI	A	329	9.92	3.18	1.25	.213
	I	107	9.48	3.09		
Global Dorm Adjustment, 1st 90 Days	A	199	48.51	9.09	-.79	.430
	I	70	49.50	8.68		
Global Dorm Adjustment, 2nd 90Days	A	167	48.57	10.79	.00	.999
	I	53	48.57	9.65		

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Table 11-3

Association of Violent Crime with Social and Interpersonal Skills
One Violent Offense vs. Repetitively Violent Offenses

Variable	Number of Charges	N	Mean	S.D.	t-value	Prob.
MMPI Adjustment to Prison	1	220	14.83	3.26	-.76	.448
	2+	348	15.04	3.44		
MMPI Social Maladjustment	1	220	9.31	4.89	-.85	.394
	2+	348	9.69	5.25		
CPI Dominance	1	208	44.81	11.62	.19	.846
	2+	312	44.62	11.09		
CPI Sociability	1	208	47.85	10.55	.92	.360
	2+	312	46.96	10.94		
CPI Social Presence	1	208	50.16	11.49	1.20	.231
	2+	312	48.97	10.86		
CPI Person Orientation	1	208	31.19	7.40	.96	.336
	2+	312	30.55	7.43		
Q-Sort: Social Withdrawal	1	217	50.47	9.22	.73	.465
	2+	341	49.84	10.34		
Q-Sort: Sociability	1	217	49.26	9.59	1.04	.297
	2+	341	48.38	9.71		
Q-Sort: Social -Emotional Constriction	1	217	50.81	9.93	-1.19	.236
	2+	341	51.83	9.82		
Interpersonal Difficulties with Peers: Interview	1	144	22.71	5.57	-2.01	.045
	2+	250	23.92	5.91		
Problems with Interpersonal Relations: PSI	1	193	9.23	9.23	-3.47	.001
	2+	300	10.23	10.23		
Global Dorm Adjustment, 1st 90 Days	1	113	49.39	8.51	.76	.448
	2+	188	48.59	9.17		
Global Dorm Adjustment, 2nd 90Days	1	106	50.69	11.45	2.43	.016
	2+	143	47.41	9.84		

Chapter 12:

Aggressive Behavior and Attitudes and Violent Criminal Behavior

Background and Rationale

In the "algebra of aggression," the theoretical framework guiding this investigation, there are two primary personal factors that are conducive to overt aggression. The first of these is instigation to aggression, which is subdivided into extrinsic (instrumental) instigation and intrinsic (angry) instigation. A second major factor is habit strength, the degree to which a person has developed aggressive habits by being reinforced for aggressive behavior. In previous chapters, some of the antecedents of these variables have been investigated. For example, part of the rationale for examining the relationship of physical illness and school problems to criminal violence was that authorities such as Palmer (1960) and Cohen (1955) have suggested that they may produce frustrations and, thereby anger and hostility.

In this chapter angry instigation and habit strength are examined more directly. In the course of the investigation, a number of measures relating to angry and aggressive behavior and attitudes were obtained. The research question posed in this chapter is whether there is a significant relationship between these observations of hostility and aggressiveness made when the subjects were youthful offenders and whether or not they were charged with crimes of violence. Again, it should be stressed that only 15 subjects had been sent to the FCI for crimes against persons, so the bulk of the aggressive offending that resulted in charges alleging criminal violence being filed took place after these data had been collected.

Method

Twelve measures relating to anger, hostility and aggressiveness were selected. The first five were MMPI scales. The first MMPI scale was the Overcontrolled Hostility (O-H) scale (Megargee, Cook & Mendelsohn, 1967). This scale is supposed to identify assaultive individuals with massive inhibitions against aggressive acting out. According to Megargee (1966), in some cases instigation to aggression accumulates in such individuals to the point where even their excessive controls are overcome, resulting in extreme but uncharacteristic violence. It might be expected that some overcontrolled assaultive offenders might be found among the "One Off" Violent Offenders; they would be less likely to be included in the ranks of either the Nonviolent or the Repetitively Violent subjects.

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The remaining four MMPI measures are, fortunately, less complicated. Wiggins (1966) Authority Conflict Scale (AUT) is a content scale. According to Greene (1980, p. 181) a person high on AUT, "...sees life as a jungle and is convinced that others are unscrupulous, dishonest, hypocritical, and motivated only by personal profit. He distrusts others, has little respect for experts, is competitive, and believes that everyone should get away with whatever they can."

Cook and Medley's (1954) Hostility (Ho) Scale is a 50 item scale composed of items that discriminated successful from unsuccessful teachers; the Ho Scale is comprised of those items that appeared to reflect hostility. In previous research it has not been successful in discriminating violent from nonviolent criminals (Megargee & Mendelsohn, 1962).

Wiggins' (1966) Manifest Hostility (HOS) Scale is another content scale. According to Greene (1980, p. 181) states the, "High HOS admits to sadistic impulses and a tendency to be cross, grouchy, competitive, argumentative, uncooperative and retaliatory in his interpersonal relationships. He is often competitive in his interpersonal relationships."

Welsh and Sullivan's Active Hostility Index (AHI) is the sum of the T-scores on MMPI scales 4 and 9. It will be recalled that in Chapter 8 we noted a slight trend for the Violent Offenders to be higher on both Scale 4 ($t = -1.70$, $p = .089$, two tail) and Scale 9 ($t = -1.80$, $p = .071$, two tail). This analysis will determine if the two scales combined significantly differentiate the samples.

Four scales derived from the Q-sorts made by the psychologists after the interviews were also used. Three dealt with aggressive tendencies: Aggression, Hostility Avoidance and Expression vs. Repression of Aggression, which combined the first two. In addition, a Q-sort scale of Authority Conflict was utilized.

Authority Conflict was also assessed by an Intake Interview scale. It was designed to capture the inmates' self reports of difficulties with authorities in school, at work, and the military, as well as conflicts with police and correctional officers. The Intake Interview Physical Violence scale assessed self reports of fights within the family, school, military, and prison with peers, parents, teachers, spouses, and other prisoners.

During the course of confinement, a record was maintained of every disciplinary report or "shot" each inmate received. McGuire (1976) divided the cohort into three groups: 1. those who received no shots whatsoever, 2. those who received shots for disruptive behavior such as refusing to obey an order or making a wise remark to an officer, and 3. those that involved physical

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violence such as fighting. Inmates were classified into groups on the basis of their most serious transgression.

The differences between the Violent and Nonviolent Offenders, the Angry versus the Instrumentally Violent Offenders and the Single versus the Repetitively Violent offenders on the 11 continuous variables were tested with t tests. Differences on McGuire's categorical variable, "Institutional Violence," were tested with Chi Square.

Results

The results of the t tests on the continuous variables are reported in Tables 12-1, 12-2, and 12-3; the chi square comparisons on Institutional Violence are reported in Table 12-4. Although it was expected that the more violent offenders would be assessed as displaying more aggressive behavior and attitudes, two tail tests continued to be used.

Results

Violent vs. Nonviolent Offenders. Significant differences were obtained on nine of the 11 continuous variables tested with t tests. The Violent Offenders had significantly higher scores on the MMPI Authority Conflict Scale ($t = -2.72$, $p = .007$, two tail), Hostility Scale ($t = -3.42$, $p = .001$, two tail), Manifest Hostility Scale ($t = -2.29$, $p = .0227$, two tail) and the Active Hostility Index ($t = -2.25$, $p = .025$, two tail). There was also an unexpectedly strong trend for the Violent Offenders to be higher on the Overcontrolled Hostility Scale ($t = -1.78$, $p = .075$, two tail).

On the Q-sort, the psychologists assessed the Violent Offenders as being significantly higher on the scale of Aggression ($t = -5.79$, $p = .000$, two tail) and lower on the scale of Hostility Avoidance ($t = 5.06$, $p = .000$, two tail). This naturally led to a highly significant, albeit redundant, difference on the combined scale Expression vs. Repression of Hostility ($t = -6.05$, $p = .000$, two tail).

Turning to authority conflicts, the Violent Offenders were assessed as being significantly higher on the Q-sort Authority Conflicts Scale ($t = -3.00$, $p = .003$, two tail), but the trend on the Intake Interview Authority Conflict Scale fell short of significance ($t = -1.78$, $p = .075$, two tail).

Highly significant differences were found with respect to Institutional Violence (Chi Squared = 19.21, $df = 2$, $p = .001$). As can be seen in the top section of Table 12-4, 80% of the violent incidents were committed by the Violent Offenders, even though they only comprised 64% of the population. The Nonviolent Offenders, on the other hand, were over-represented among those

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who had no incident reports filed against them during their stay at FCI, Tallahassee.

Angry vs. Instrumental Violent Offenders. In marked contrast to the comparisons of the Violent and Nonviolent Offenders, none of the differences between the Angry and the Instrumentally Violent Offenders approached significance. If any data set was going to reflect differences between these two categories of offenders, it should certainly be these measures of hostile and aggressive behavior. The total lack of differences suggests that either this distinction is not meaningful or, more likely, that our offense-based operational definition was too crude and unreliable to make meaningful distinctions on this dimension.

Single vs. Repetitively Violent Offenders. Although none of the four special MMPI scales could discriminate between the "One Off" and significantly higher on the Active Hostility Index ($t = -2.75$, $p = .006$, two tail).

Significant differences were also obtained on the Q-sort scales for Aggression ($t = -3.22$, $p = .001$, two tail), Hostility Avoidance ($t = 2.47$, $p = .014$, two tail) and the combined scale of Expression vs. Repression of Aggression ($t = -3.12$, $p = .002$, two tail). A significant difference was also obtained on the Q-sort Authority Conflict Scale ($t = -2.27$, $p = .024$, two tail).

On the Intake Interview measures, there was a strong trend for the Violent Offenders to be higher on the Authority Conflict Scale ($t = -1.90$, $p = .058$, two tail) and a clearly significant difference on the Physical Violence Scale ($t = -2.81$, $p = .005$, two tail).

With regard to Institutional Violence, the differences between the Single and the Repetitively Violent Offenders did reach significance (Chi Square = 4.47, $df = 2$, $p = .107$) in the overall analysis. An ex post facto comparison combining the No shot and Disruptive categories and comparing them with the incidence of Violent Offenses also yielded a Chi Square of 4.47 which, with only one degree of freedom, would have been significant ($p < .05$). This simply illustrates the fact that the main discrepancy from expected values was an over-representation of Repetitive Offenders in the Violent shot category; 71.13% of the violent shots went to members of the Repetitive group even though they comprised only 61.54% of the subjects.

Discussion. In previous analyses, the primary difference noted among the groups was for the Repetitively Violent Offenders to be assessed as having fewer controls and inhibitions against aggression than the "One Off" group. This was true, but to a lesser extent, of the Violent Offenders when they were contrasted with the Nonviolent sample.

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In the present analyses, the major differences were between the Violent and the Nonviolent Offenders on measures reflecting hostile attitudes and aggressive behavior patterns. This was especially true on the MMPI which, presumably, measures traits while the Q-sort, Interview and record of Institutional Violence are more likely to reflect behavioral observations. These distinctions will receive further consideration in the concluding chapter. However, one possible explanation is that hostile attitudes and aggressive behavior patterns, interacting of course with situational factors and provocations, may be more likely to influence whether or not a criminal offender ever engages in violence, while defective inhibitions or controls, a basic deficiency in socialization, is what distinguishes the Violent Offender who is charged with but a single violent offense from those who go on to engage in repeated acts of violence.

Summary. Twelve indices reflecting hostile attitudes and aggressive behavior patterns were investigated, five based on the MMPI, four on the Q-sorts made by the psychologists after they had interviewed the inmates, two on the interview itself and one based on the incidence of violent or disruptive behavior during their stay in the institution. Ten of these 12 measures showed significant differences between the Violent and the Nonviolent offenders, and noteworthy trends were obtained on the remaining two.

In the comparisons of the Angry with the Instrumentally Violent Offenders, once again no differences were found. This suggested that either this is not a meaningful distinction, or that offense patterns are too crude a measure of apparent motivation.

With regard to the comparison of the Repetitively Violent with the Single Violent Offenders, fewer differences were obtained on the MMPI, but the Repetitively Violent Offenders were assessed as being more aggressive and hostile on the Q-sort and Interview measures. The differences in Institutional Violence fell short of significance.

The overall pattern of data suggested that instigation to aggression and habit strength, interacting with situational variables, may be the primary determinants of whether a youthful offender engages in violence, but that measurably deficient controls, values and socialization may be what determines which violent offenders become repetitively violent.

Table 12-1

Association of Violent Crime with Aggressive Habits and Attitudes
Violent vs. Nonviolent Offenders

Variable	Violent/ Nonviolent	N	Mean	S.D.	t- value	Prob.
MMPI Overcontrolled Hostility	N	305	14.82	3.36	-1.78	.075
	V	569	15.25	3.30		
MMPI Authority Conflict	N	305	12.33	4.23	-2.72	.007
	V	569	13.14	4.16		
MMPI Hostility	N	305	22.22	8.91	-3.42	.001
	V	569	24.36	8.78		
MMPI Manifest Hostility	N	305	9.07	4.83	-2.29	.022
	V	569	9.89	5.16		
MMPI Active Hostility Index	N	305	139.19	17.27	-2.25	.025
	V	569	141.95	17.31		
Q-Sort: Aggression	N	309	47.92	9.50	-5.79	.000
	V	558	51.94	9.96		
Q-Sort: Hostility Avoidance	N	309	51.72	9.68	5.06	.000
	V	558	48.24	9.71		
Q-Sort: Expression vs. Repression of Aggression	N	309	47.84	9.63	-6.05	.000
	V	558	52.03	9.86		
Q-Sort: Authority Conflict	N	309	49.09	9.97	-3.00	.003
	V	558	51.20	9.85		
Authority Conflict: Interview	N	304	46.84	11.34	-1.78	.075
	V	535	48.33	11.79		
Physical Violence: Interview	N	261	16.76	5.60	-4.29	.000
	V	482	18.62	5.67		

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Table 12-2

Association of Violent Crime with Aggressive Habits and Attitudes
Angry vs. Instrumentally Violent Offenders

Variable	Type of Violence	N	Mean	S.D.	t-value	Prob.
MMPI Overcontrolled Hostility	A	394	15.24	3.29	-1.25	.213
	I	111	15.68	3.14		
MMPI Authority Conflict	A	394	13.20	4.06	.53	.593
	I	111	12.96	4.31		
MMPI Hostility	A	394	24.43	8.82	.35	.729
	I	111	24.12	8.50		
MMPI Manifest Hostility	A	394	9.98	5.24	.76	.447
	I	111	9.56	4.93		
MMPI Active Hostility Index	A	394	141.69	16.77	-.02	.985
	I	111	141.73	17.62		
Q-Sort: Aggression	A	377	52.02	9.68	.70	.481
	I	118	51.89	10.43		
Q-Sort: Hostility Avoidance	A	377	48.30	9.57	.01	.989
	I	118	48.29	9.77		
Q-Sort: Expression vs. Repression of Aggression	A	377	52.07	9.54	.54	.588
	I	118	51.52	10.36		
Q-Sort: Authority Conflict	A	377	51.16	9.91	-.04	.970
	I	118	51.20	9.49		
Authority Conflict: Interview	A	362	48.01	11.50	-.74	.461
	I	115	48.94	12.40		
Physical Violence: Interview	A	326	18.56	5.61	-.27	.791
	I	101	18.73	5.81		

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Table 12-3

Association of Violent Crime with Aggressive Habits and Attitudes
One Violent Offense vs. Repetitively Violent Offenses

Variable	Number of Charges	N	Mean	S.D.	t-value	Prob.
MMPI Overcontrolled Hostility	1	220	15.07	3.32	-.99	.321
	2+	348	13.35	3.28		
MMPI Authority Conflict	1	220	12.81	4.32	-1.51	.131
	2+	348	13.35	4.06		
MMPI Hostility	1	220	23.63	8.91	-1.56	.119
	2+	348	24.81	8.68		
MMPI Manifest Hostility	1	220	9.47	5.23	-1.52	.130
	2+	348	10.15	5.12		
MMPI Active Hostility Index	1	220	139.45	19.11	-2.75	.006
	2+	348	143.54	15.93		
Q-Sort: Aggression	1	217	50.25	9.98	-3.22	.001
	2+	341	53.02	9.81		
Q-Sort: Hostility Avoidance	1	217	49.51	10.37	2.47	.014
	2+	341	47.43	9.19		
Q-Sort: Expression vs. Repression of Aggression	1	217	50.41	10.27	-3.12	.002
	2+	341	53.06	9.47		
Q-Sort: Authority Conflict	1	217	50.02	9.87	-2.27	.024
	2+	341	51.95	9.79		
Authority Conflict: Interview	1	209	47.14	12.04	-1.90	.058
	2+	325	49.13	11.59		
Physical Violence: Interview	1	180	17.68	5.64	-2.81	.005
	2+	301	19.18	5.63		

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Table 12-4

Association of Violent Crime with Institutional Violence

Violent vs. Non Violent Offenders

	Type of Institutional Violence					
	Nonviolent		Disruptive		Violent	
	N	%	N	%	N	%
Non-violent	217	22.3	104	10.7	25	2.6
Violent	316	32.5	212	21.8	97	10.0
Totals	533	54.9	316	32.5	122	12.6

Angry vs. Instrumentally Violent Offenders

	Type of Institutional Violence					
	Nonviolent		Disruptive		Violent	
	N	%	N	%	N	%
Angry Violent	209	37.9	139	25.2	76	13.8
Instrumentally Violent	61	11.1	52	9.4	15	2.7
Totals	270	48.9	191	34.6	91	16.5

Offenders with One Violent Offense vs. Repetitively Violent Offenders

	Type of Institutional Violence					
	Nonviolent		Disruptive		Violent	
	N	%	N	%	N	%
One Offense	127	20.4	85	13.6	28	4.5
Two+ Offenses	188	30.1	127	20.4	69	11.1
Totals	315	50.5	212	34.0	97	15.5

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Much work remains to be done on these data. In view of the significant differences in the proportions of whites and non-whites in the Violent and Nonviolent samples, the samples should be subdivided on the basis of race and the analyses reported in Chapter 5 through 12 should be repeated. The probability levels should be adjusted to minimize the possibility of family-wise errors among similar data sets, especially in view of the many significance tests performed. And regression analyses should be done to discriminate the Nonviolent from the Violent Offenders and, within the Violent sample, the "One Off" from the Repetitively Violent. Such analyses will take time, especially since a major change in computer operating systems at our university will require a total conversion of our massive data set before additional analyses can be started. Therefore, it is a good time to take stock and reflect on the findings obtained thus far.

Background and Rationale

The follow-up data analyzed in the present investigation were obtained in the course of an earlier study on the early identification of career criminals (Carbonell & Megargee, 1984). In that investigation, the FBI records used in the present study were obtained and classified into three groups based on the number and the severity of offenses committed. Approximately 41% were classified as "Terminators," youthful offenders who essentially ceased further offending; 24% were "Persistent Offenders," men who continued to commit serious and/or frequent offenses. Between these two extremes were 35% of the subjects who were designated as "Occasional Offenders."

In that study, the primary research question was whether youthful offenders who would go on to become career criminals could be accurately identified when they were in their 20s. Two dozen specific hypotheses derived from the literature on the characteristics of career criminals were tested; significant differences were obtained which support 12 of these hypotheses. In the next phase of the research, regression formulas were derived to identify the various groups; on cross validation, none of these equations held up on cross validation.

As noted earlier, because there are few federal statutes dealing with violent criminal behavior, it is generally assumed that federal offenders are nonviolent (Wilson & Herrnstein, 1985). However, in the course of analyzing the criminal careers of the 947 subjects in the follow-up sample, it was noted that about two thirds had one or more charges for crimes of violence filed against them at some point. Although the initial study was disappointing with respect to predicting career criminality, it seemed possible that these data might be utilized to investigate

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the correlates of violent criminal behavior.

Part of the rationale for the present investigation stemmed from its longitudinal nature. The typical study comparing violent and nonviolent criminals who are in their mid-30s would have to rely on data collected concurrently; the longitudinal nature of the present investigation allowed comparisons based on data collected 12 to 14 years earlier. Indeed much of the violent behavior recorded took place after these men had been studied as youthful offenders. This time differential enhanced the study's potential epidemiological and predictive significance.

Many studies involving the comparison of offenders charged with different types of crimes have little, if any, theoretical infrastructure. In contrast, the present investigators have formulated a theoretical approach to the study of aggression. It postulates that an aggressive act is the outcome of an interaction between personal (internal) factors and situational (external) factors. The personal or internal factors that are conducive to aggressive behavior are "instigation" (or motivation) and "habit strength." There are two types of instigation or motivation, "extrinsic" and "intrinsic." Extrinsic ("instrumental") motivation is using aggression as a means to an end, such as obtaining money from a robbery or power from an act of terrorism. Intrinsic ("angry") aggression is motivated simply by animosity or a desire to harm or injure the victim.

Habit strength, which is also conducive to overt aggressive behavior, is a person's propensity to use aggressive behavior based on his or her history of being reinforced for aggressive acts. The reinforcement can be either extrinsic or intrinsic, and may often be a combination of the two.

Opposing aggressive behavior are internal inhibitions. These may be very pragmatic; the individual may decide that the act of aggression being contemplated has little chance of success and/or that very bad things will happen if the individual attempts to carry it out. Inhibitions may also stem from one's conscience, Superego, culturally transmitted taboos or conditioned inhibitions, depending on your theoretical frame of reference. The common denominator is the feeling that, whether or not the aggressive act will succeed in its objective, it would be wrong, reprehensible or sinful.

These personal factors, which differ as a function of the nature of the aggressive act in question and the target against which is directed, and which change over time, interact with situational factors that may encourage or inhibit aggressive behavior. The interaction of these factors determine the "response potential" of any given aggressive act directed at any particular target in any given set of circumstances at any particular point in time. If the sum total of the inhibitory factors

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outweigh the factors conducive to the aggressive response, that particular aggressive act will be blocked (at that time and under those circumstances). On the other hand, if the factors favoring that aggressive act directed at that target at that time exceed the sum total of the personal and situational factors inhibiting or suppressing that response, then that act is possible. Before it can actually occur, according to the theory (Megargee, 1993), it must compete with all the other aggressive and nonaggressive acts that are also possible. The "algebra of aggression" stipulates that the act that offers the most satisfaction at the least cost will be selected. It was hoped that this conceptual framework, which is summarized in Chapter 2 and explained in greater detail in the first two Appendices, might permit more meaningful interpretations of any differences observed.

Method

For the present study, the criminal career data were reclassified according to the incidence of violent charges. People with no violent charges constituted the Nonviolent Offender Group. Those who had been charged with violent offenses, as operationally defined in Chapter 3, were subdivided into Angry and Instrumental subgroups based on whether the offenses seemed aimed at injuring the victim or at attaining extrinsic goals such as money in a robbery. Those who had engaged in both types were classified into the former group. In addition, a small group of Potentially Violent subjects was identified consisting of people charged with carrying or trafficking in illegal weapons, but who had not been charged with actually using those weapons to injure any one.

Another distinction was the frequency of violent offending. It seemed that a single violent offense could result from happenstance such as being in the wrong place at the wrong time or being subjected to extreme situational provocation. Repetitive violence, defined as two or more charges for violent criminal behavior, seemed more clearly indicative of personality factors conducive to violent offending. These considerations led to the classification of subjects summarized in Table 3-3.

The first objective was to explore the biopsychosocial antecedents and correlates of violent criminal offending. Using the large data based collected by means of interviews, case history analyses, psychologists' and correctional staff reports and psychological tests when these men were incarcerated as youthful offenders at the Federal Correctional Institution in Tallahassee in the early 1970s, nine families of variables were selected:

1. Demographic and descriptive;
2. Familial and social;

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3. Socialization and values;
4. Physical factors, health and substance use;
5. Mental health and personal adjustment;
6. Cognitive abilities and education;
7. Vocational adjustment and work attitudes;
8. Social skills and interpersonal relations;
9. Aggressive behavior and hostile attitudes.

Within each family of variables, measures from several different sources were used to contrast the Violent with the Nonviolent Offenders, the Angry with the Instrumentally Violent Offenders and the Single with the Repetitively Violent Offenders. Chi Square analyses were used with the categorical data and t tests with the continuous variables.

Results

The first, and in some ways perhaps the most important, finding was how many of these federal prisoners who had been admitted to the Tallahassee Federal Correctional Institution in the two year period from November 3, 1970 through November 2, 1972 had been charged with violent offenses. By 1984, when they were in their mid-30s, 551 of the 947 men whose FBI rap sheets were obtained (58.18%) had been charged with violent offenses, and another 73 (7.7) had been charged with potentially violent offenses. Only 343 (36.22%) could be considered Nonviolent.

Criminologists and other social scientists often treat federal and state offenders as if they belonged to different species; however, it was clear from these data that, when it came to recidivism, these former federal prisoners were equal opportunity offenders and had no more inhibitions with respect to breaking state laws than they had the federal codes. Similarly, despite the fact that only 15 members of the original cohort had been convicted of crime against persons, by 1984, 551 had been charged with such offenses. These data suggest that it is probably safer to generalize from federal to state offenders and vice versa than many researchers had previously thought.

Violent vs. Nonviolent Offenders. A number of statistically significant differences were found when all 624 Violent Offenders, including the Angry, the Instrumental and the Potentially Violent, were contrasted with the 343 Nonviolent Offenders. The Violent Offenders were more likely to have been committed to FCI for larceny or possession of contraband such as stolen property, whereas, the Nonviolent were more likely to have been sentenced

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for interstate transportation of stolen or illegal property or for violation of federal drug or liquor laws. Overall, the Violent Offenders had a higher proportion of nonwhite subjects (44%) than did the Nonviolent (35%).

With regard to the families of origin, the Violent Offenders were more likely to come from lower socioeconomic status families, to live in less adequate dwellings, and to have families exhibiting more social deviance and marginality, especially among their siblings. However, they also had more positive attitude toward their mothers. Despite these differences, the groups did not differ significantly on measures of socialization and responsibility, although the Nonviolent Offenders were assessed as having more conservative religious and sexual attitudes. Similarly, the differences with regard to physical health or substance use were minimal.

Turning to measures of mental health, the Violent Offenders' case histories indicated that they had manifested significantly more maladjustment and deviance than the Nonviolent Offenders as young adults, but not as children or adolescents. Significant differences on the MMPI were sparse and inconsistent, and Heilbrun's (1979) finding that violent offenders are likely to be low in IQ but high in psychopathy was replicated only among white subjects and only with respect to Instrumental and Potentially Violent Offenders.

In marked contrast to the measures of physical and mental health, the cognitive and educational variables showed a number of significant differences, all favoring the Nonviolent Offenders. The Nonviolent Offenders had attained a higher grade level, stayed in school longer, and scored higher on measures of intelligence and academic achievement. Their personality tests, case histories and interviews indicated they had more achievement motivation, made more effective use of their intellectual abilities, and manifested fewer school problems than the Violent Offenders. In the vocational area, the Nonviolent Offenders had better employment records and were tested as having better work attitudes than the Violent Offenders.

With respect to social skills and interpersonal relations, the Violent Offenders were seen as more constricted and as having more interpersonal difficulties, whereas the Nonviolent Offenders were viewed as being more sociable and as being better adjusted and as getting along better with other prisoners.

Focusing on aggressive attitudes and behavior patterns, numerous significant differences were found. On standardized personality assessment devices, on psychologists' ratings, and in their institutional behavior, the Violent Offenders manifested much more aggressiveness, hostility, and authority conflict than the Nonviolent Offenders.

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In summary, a number of statistically significant differences were found between the Violent and Nonviolent Offenders. The vast majority, not surprisingly, favored the Nonviolent. The most noteworthy areas of difference, in terms of the proportion of statistically significant findings, were in the areas of familial deviance, cognitive functioning, educational achievement and aggressive habits and attitudes. The Violent Offenders were also assessed as being less employable and having more difficulties in interpersonal relations than the Nonviolent. The differences in physical and mental health and in socialization and values were much less striking.

Angry vs. Instrumentally Violent Offenders. The theory of aggression that guided the present study stipulated that motivation of instigation to aggression can be subdivided into extrinsic (instrumental) aggression that is used as a means to some end and intrinsic (angry) aggression that is reinforced by the injury inflicted on the victim. Accordingly, the Violent Offenders were subdivided into "Instrumental" and "Angry" subgroups based on the types of charges leveled against them. Instrumental offenses were those such as kidnaping for ransom or extortion in which violence or the threat of violence seemed to be used as a means to obtain money, power, or some other extrinsic goal. Other offenses, such as battery, were regarded as intrinsic or angry. Offenders who had been charged with both types of offenses were classified as "Angry." The 424 Angry and the 127 Instrumental Offenders were compared on all the variables used in the previous comparison of the Violent and Nonviolent groups.

A few apparently statistically significant differences were found. However, it appeared that the number of so-called significant differences was actually less than one would expect on the basis of chance. The most noteworthy findings were that Heilbrun's results regarding the interaction of psychopathy and intelligence as factors in violent crime were replicated among the Instrumental and Potentially Violent but not the Angry subjects. While this supports the possibility that this is a meaningful distinction, overall there were certainly no consistent, reliable or theoretically predictable differences. It may be that the distinction between extrinsic and intrinsic motivation is fallacious. Or, it may be that the operational definition used to separate the groups on these constructs was simply too crude.

Single vs. Repetitively Violent Offenders. The third set of analyses compared the offenders charged with only one violent offense, the "One Off" or Singly Violent Offenders, with those charged with two or more such offenses, namely the Repetitively Violent Offenders. Surprisingly, despite the fact that the sample sizes were smaller and the fact that all these subjects had had violent criminal charges leveled at them, the differences between these two samples equalled or exceeded the differences between

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the Violent and the Nonviolent groups. Especially interesting was the fact that the pattern of differences was not identical to that found in the Violent/Nonviolent comparison.

On the familial variables, there were more significant differences obtained between the Single and Multiply Violent Offenders than there were between the Nonviolent and Violent criminals. The Single or "One Off" offenders came from families characterized by more parental nurturance, more adequate parental discipline, and more cohesiveness. In particular, the father was seen as a more positive socializing influence. On the other hand, the Repetitively Violent Offenders came from lower socioeconomic conditions, with less adequate dwellings and less cohesive families, more parent child tension and more social marginality. Their siblings were more likely to exhibit deviant or delinquent behavior patterns and the father was a poorer role model.

The differences on social and cultural factors were more apparent for the "One Off" versus the Repetitively Violent Offenders than they were for the Nonviolent versus the Violent; the Single Violent Offense inmates were assessed as being more responsible, better socialized and as sharing more generally accepted or common attitudes and values.

Turning to physical health, the comparison of the Repetitive Violent Offenders with the "One Off" showed more differences than that of the Violent with the Nonviolent Offenders; the Repetitive group exhibited more physical problems on two MMPI health scales.

The difference was more marked with respect to the mental health variables. The Repetitive Violent Offenders' histories showed more deviance and maladjustment as children and adolescents as well as young adults. Moreover, the personality test results showed the Repetitive group as having significantly more deviant scores on a number of scales.

The differences between the Single and Repetitive groups on the educational, cognitive and measures was similar to that between the Nonviolent and Violent Offenders; the Single group had attained a higher grade level, scored better on the achievement and ability tests and was assessed as having more achievement motivation and effective use of intelligence, whereas the Repetitive group had more problems in school. On vocational measures, the "One Off" Offenders had superior employment records and were tested as having better work attitudes.

There were fewer differences between the Single and Multiply Violent Offenders than there were between the Nonviolent and Violent Offenders with respect to interpersonal relations in general and hostile and aggressive attitudes and patterns in particular. The Repetitive Offenders had more interpersonal difficulties while the Singly Violent Offenders were assessed as

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manifesting better adjustment in the institution. The Repetitive Offenders also were assessed as being more hostile, more aggressive, having more conflicts with authorities and getting involved in more physical aggression in the institution than the Single Violent Offenders.

In summary, even more statistically significant differences were found between the Singly and Repetitively Violent Offenders than between the Violent and Nonviolent Offenders. Most favored the Single Violent Offenders. Whereas the Nonviolent and Violent Offenders differed most with respect to familial deviance, cognitive functioning, educational achievement and aggressive habits and attitudes, the Single and Repetitive Violent Offenders were more likely to differ with respect to culture, socialization, and mental health. The differences on educational, cognitive and vocational differences were similar, but there were somewhat fewer differences in interpersonal relations and in hostile and aggressive attitudes and patterns.

These data show that Violent Offenders are more deviant than Nonviolent criminals, and that, within the Violent sample, the Repetitively Violent Offenders were more deviant than those charged with but a single violent offense. The Violent Offenders were also assessed as being less employable and having more difficulties in interpersonal relations than the Nonviolent. The differences in physical and mental health and in socialization and values were much less striking.

Discussion. The data show that the most violent offenders are more deviant than the less violent and nonviolent offenders. However, the patterns of variables differentiating the Violent from the Nonviolent Offenders differs somewhat from those discriminating the Repetitively Violent from the Singly Violent Offenders. As noted earlier, it appears that instigation to aggression, especially hostility, and aggressive habit strength interacting with situational variables influence whether or not an offender is ever charged with a violent crime. Repetitive violence, however, is also associated with less adequate socialization and acculturation and more difficulties in adjustment and overall mental health.

Although the family is undeniably important, the present findings also highlight the role of the school in socialization; whereas all of the subjects in the present sample had been incarcerated for felonies, nevertheless the violent and the repetitively violent had poorer records of achievement and adjustment in school settings. It is possible that failure in school also played a role in fostering the hostile and aggressive behavior patterns that characterized the more violent offenders.

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APPENDIX 1

Chapter on Aggression and Violence

CHAPTER 25

Aggression and Violence

Edwin I. Megargee

INTRODUCTION

Since the first edition of this handbook was published, there has been a substantial increase in criminal violence in the United States. In 1988, a record 1.56 million violent crimes were committed in the United States, a 5.5% increase over the 1987 rate, which itself had set a new record (American Correctional Association, 1989). Furthermore, it is estimated that for every violent crime actually committed, two others were attempted (Flanagan & Jamison, 1989, p. 233).

If you are living in America, there is an 83% chance that someday you will be the victim of a violent crime such as murder, rape, kidnaping, assault, or robbery. Indeed, there is a good chance that, like myself, you already have been a victim. What is more, it is not unlikely that you may someday be victimized again (Flanagan & Jamison, 1989, p. 250). But the United States does not have an exclusive franchise on violence. Even though it has been said that "violence is as American as apple pie," from Belfast to Beirut and from Bucharest to Beijing, violence is a worldwide phenomenon.

Although aggression and violence are clearly significant social problems, violence itself is not considered

a form of psychopathology. True, a variety of functional and organic disturbances can lead to aggressive and violent behavior, but most violence is committed by people suffering from no diagnosable mental illness. Even if we exclude legal, socially condoned forms of violence, such as that occurring in self-defense or in times of war, we find that even criminal violence is often performed by normal people for rational motives.

All cultures delineate boundaries between acceptable and unacceptable behaviors, prescribing many, permitting some, and proscribing others (Megargee, 1973, 1982). No form of aggressive behavior or violence is so extreme or so grotesque, however, that it has not been tolerated by some culture, somewhere, at some time. I once evaluated a serial murderer and rapist who, after he had killed a mother and her daughter in the presence of her younger children, removed one victim's heart and ate part of it. Bizarre today, but in 15th-century Aztec culture, eating a still-beating human heart would not have been considered abnormal. Parenticide, infanticide, genocide—virtually any form of violence that one can imagine has been allowed at some point by some human society.

Just as they differ in the types of aggression that are accepted, cultures also vary in the aggressive behaviors that are rejected. Several parameters typically determine whether an aggressive act is condoned or condemned. These include the target or victim of the aggressive behavior, the nature and degree of the aggressive act, the circumstances under which it is per-

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formed, and the social role, status, intent, and mental competency of the perpetrator. Societies differ greatly in the specific boundaries that they establish between the latitudes of acceptance and rejection, and these demarcations also change over time within societies (Megargee, 1973). Dueling, for example, was once prescribed, was later merely permitted, and is now prohibited in Western culture.

In short, there is nothing inherently deviant, abnormal, or pathological about any given act of aggression or violence. These are labels imposed by societies, and cultures disagree on these issues (Megargee, 1973). Most Americans, for example, see nothing morally objectionable in the practice of slaughtering cattle for food, but feel it is wrong to kill people who espouse different religious beliefs. In India, however, Hindus who would have been horrified at the thought of butchering a cow nevertheless slaughtered thousands of Muslims during the early 1950s (Luckenbill & Sanders, 1977).

Mental health professionals see people who deviate from the norm in both directions. Many problems, including some psychophysiological ailments, are commonly attributed to repressed or suppressed anger or hostility (Chesney & Rosenman, 1985). In the present chapter, however, I will focus on aggressive behavior that deviates in the other direction—that is, excessive aggression or violence that is currently labeled undesirable or deviant by our society.

DEFINITIONAL ISSUES

Those who attempt to define aggression, violence, and criminal violence quickly get caught up in a number of theoretical and conceptual questions (Baron, 1977; Buss, 1961; Johnson, 1972; Megargee, 1969, 1982). Virtually everyone would agree that intentionally injuring another person who does not wish to be hurt constitutes aggression and, if the injury is sufficiently severe, violence. The trouble begins when we attempt to go beyond this commonly agreed-upon area.

One issue is intentionality. What of injuries that were not consciously intended, as in traffic accidents? Or instances in which pain was inflicted for the recipient's "own good," such as a parent punishing a child or a dentist drilling a tooth? If conscious intent to injure is an essential criterion, how should we evaluate the immense literature on aggression using infrahuman subjects? Most of our knowledge of neurological and

endocrinological factors associated with aggression comes from basic research on animals, but their use raises further definitional issues. Ethologists typically distinguish aggression directed at other members of one's own species (conspecific) from that directed at other species, and some distinguish agonistic behavior aimed at establishing dominance or protecting territory from "purely aggressive" behavior (Ardrey, 1966; Johnson, 1972; Lorenz, 1966; Tinbergen, 1953, 1968). Is it equally aggressive when a shark slashes a swimmer or swallows a sardine? In cats, researchers can distinguish affective from predatory attacks (Johnson, 1972); are both equally aggressive? Is aggression confined to vertebrates, or is it aggressive for an amoeba to engulf a paramecium?

Some behaviorists attempt to finesse such fuzzy concepts as intentionality by defining aggression as behavior that "delivers noxious stimuli to another organism" (Buss, 1961). But what about behavior that is clearly aimed at inflicting injury and fails in its objective? A strict adherence to Buss's definition might require classifying the behavior of unsuccessful assassins such as Lynette (Squeaky) Fromme and Sarah Jane Moore as nonviolent. And how should we classify behaviors directed at things rather than organisms? Is arson nonaggressive if no one is injured? And what about verbal attacks? Most of us have been criticized, chastised, castigated, or cursed on occasion, and most of us who have experienced such abuse would agree with those researchers who regard verbal as well as physical behavior as aggressive, even though it is more difficult to assess the extent of the injuries. Indirect aggression, such as spreading malicious gossip, poses additional problems (Buss, 1990).

Another issue concerns whether the victim desired, or at least acquiesced to, the noxious stimulation or injury. This problem is explicitly raised by Baron's (1977) definition of human aggression as "any form of behavior directed toward the goal of harming or injuring another living being *who is motivated to avoid such treatment*" (p. 7; emphasis added). This definition would classify as aggressive a case of sexual harassment or sexual extortion in which a victim was coerced into acquiescing to unwanted advances, but would exclude dentistry and surgery (as well as any injuries inflicted on a masochist). The disadvantage is that it requires us to ascertain the motives of the victim as well as of the perpetrator, a problem that is especially difficult in our example of the amoeba and the paramecium.

A fourth question involves acts of omission that

result in injury. Suppose a wife who is angry at her husband "forgets" to warn him that she just waxed the floor, so that he accidentally slips and falls? What of an infantryman who neglects to report discovering an enemy mine on the path leading to his commanding officer's tent? Or the classic example of the sadist who gleefully refused to inflict pain on the masochist?

The term *violence* is usually reserved for aggression that is likely to cause serious injuries or to threaten human life. Because *violence* has negative connotations, some hesitate to apply it to extreme aggressive acts that are condoned by a society, such as legally authorized executions or acts of war. If you choose to exclude legally permitted behavior, however, you must consider how legal definitions differ from one jurisdiction to the next. Some would restrict the term to the laws prevailing at a particular time or place; this approach would classify the Holocaust as nonviolent, since it was undertaken by the legally constituted government of Nazi Germany. Others would follow the approach adopted at the Nuremberg trials and appeal to higher, "universal" standards of human conduct. The simplest solution is to classify all extremely aggressive behavior as violent, whether or not it is legally sanctioned.

These definitional questions are important. To the extent that psychology is scientific, our knowledge and understanding of aggressive behavior and violence comes from our observations of these behaviors and the creatures, animal and human, who engage in them. If we cannot agree on what behaviors we will classify as aggressive, then our observations will differ, and even though we may be using the same terms, we may be studying and analyzing different phenomena.

Despite these definitional problems, those of us who do research on aggression have some unique advantages over our colleagues who study such other domains as anxiety or schizophrenia. By its nature, aggression, especially physical aggression, is readily observable, and it has occurred in varying forms and degrees in all cultures at all times. Thus, researchers on aggression can use anthropological, historical and even archaeological data; we know, for example, that the earliest hominids made weapons and killed one another. Moreover, as noted above, we can study aggressive behavior among animals, both in the natural setting—as exemplified by Jane Goodall's (1978) multigenerational studies of chimpanzees in the wild—and in the controlled conditions of the laboratory. Indeed, the fossil record, showing the development and extinction of teeth, antlers and other animal weaponry, as

well as their effects, enables ethologists to formulate and even test hypotheses about the function and evolution of aggressive behavior patterns from prehistoric times to the present (Geist, 1990; Klopfer, 1981).

Even though we may not always agree on what constitutes aggression or violence, most of us wonder what characterizes people who engage in such behavior, especially in criminal violence. Careful clinical study shows that, although each violent person is unique, there are certain modal patterns or syndromes. A literature review I undertook (Megargee, 1982) revealed that, for most of the major crimes of violence, the most commonly observed types of violent individuals are as follows:

1. Normal individuals driven to violence by severe situational circumstances, sometimes exacerbated by alcohol
2. People whose violent behavior stems from severe psychopathology including functional and organic psychoses
3. Individuals committed to an aggressive life-style or socialized in a subculture in which violence is a normal way of life or an expected response in certain circumstances
4. People who employ violence as a means to accomplish certain extrinsic ends, such as financial gain, political change, sexual gratification, or social status, or who engage in violence as a necessary part of their jobs.
5. Those whose violence stems from chronic feelings of anger, rage, hostility, or hatred induced by oppression, abuse, frustration, and the like
6. Individuals whose violent behavior paradoxically stems from excessive inhibitions and controls (Megargee, 1966).

Unfortunately, typologies such as this do not substantially advance our understanding of an individual event or case. For one thing, they focus exclusively on the perpetrator's characteristics and ignore the situational factors, not the least of which is the behavior of the victim. For another, they obscure the complexity of the factors that interact to determine whether or not a particular individual will engage in a specific aggressive act at a given time against a certain target.

Instead, I have found it necessary to formulate a conceptual framework for the analysis of aggressive and violent behavior. Since its initial introduction (Megargee, 1969), this scheme has been refined and modified over the years (Megargee, 1972, 1982, 1984, 1985); it has proved useful in assisting clinicians and

researchers in assessing, modifying, and studying aggressive behavior. The first step is to think about a particular aggressive act directed at a particular target and to analyze it in terms of its components parts.

A CONCEPTUAL FRAMEWORK FOR ANALYZING AGGRESSIVE BEHAVIOR

Most human behavior, including aggression, is performed on a fairly routine basis. As response follows response in a smooth-flowing, often automatic, sequence, it is easy to lose sight of the behavior's complex determinants. If we stop the action and analyze a single response, however, we become aware that each act is the result of the interaction of many factors and dozens of unconscious choices.

In most situations, the individual can make any one of a number of different responses. People who are threatened can fight, run away, or attempt to make some conciliatory gesture. If they choose to attack, they can do so verbally or physically, with vigor or with restraint, within certain limits or with no holds barred. Their aggressive behavior can be directed at those who aroused their ire or it can be displaced to other targets. How is the choice made? Typically, a person selects the response that appears to offer the maximum satisfactions and the minimum dissatisfactions in that particular situation.

This simple statement conceals a rapid but extremely complex internal bargaining process in which the capacity of a given response to fulfill many different drives and motives is weighed against the pain that might result from that response, as well as from the postponement of the satisfaction of other competing drives. Flight might best satisfy an individual's need for safety, but at the expense of humiliation for what might be regarded as cowardly behavior. Attack might satisfy a person's aggressive needs, but at the expense of personal injury. By means of this internal algebra, the net strength of each possible response is calculated and compared with all other responses, and the strongest one is selected (Megargee, 1969, 1972, 1982).

What determines the net strength of a potential response? In the case of an aggressive or violent response we can isolate several broad factors that interact to determine response strength. The first of these is *instigation to aggression*. Instigation to aggression is the sum of all the forces that motivate an individual to commit a violent or aggressive act. It includes both

intrinsic ("angry") instigation which is the conscious or unconscious wish to harm the victim in some fashion, and *extrinsic* ("instrumental") instigation, which is the yearning for other desirable outcomes that the aggressive act in question might accomplish, such as economic gain in the case of a robbery or perceived political benefits from an act of terrorism.

The second major variable is *habit strength*, the extent to which the response has been rewarded or punished in the past. Other things being equal (which they rarely are), the more often a given aggressive act directed at a particular target has been successful in the past, or the more one has observed people aggressing successfully, the more likely one is to aggress in the future. Habit strength is especially relevant in the case of extrinsic (or instrumental) aggression.

Instigation to aggression and habit strength both motivate people toward aggression. What stops them? Opposing the motivational factors is the third set of variables, namely, *inhibitions against aggression*. These include all the reasons why a person would refrain from a particular aggressive act directed at a particular target. Included are both moral prohibitions which classify the particular act as wrong, and practical considerations, such as fear of retaliation or the possibility that the act may fail in its objective. Inhibitions can be general or specific and can vary as a function of the act, the target, and the circumstances.

Instigation, habit strength, and inhibitions are all personal characteristics, but behavior results from individuals interacting with their milieu. The fourth class of variables, *situational factors*, encompasses those external factors that may facilitate or impede aggressive behavior; these include environments, settings, situations, and stimuli. Among the external factors that might facilitate aggressive behavior are living under apartheid (environment), being in a war zone (setting), being present when a fight breaks out (situation), or a provocative gesture on the part of an antagonist (stimulus). Factors that might inhibit violence include living in a cloistered convent (environment), attending a symphony concert (setting), the presence of a police officer (situation), or having an opponent drop to his knees and raise his hands in supplication (stimulus). The common denominator of these events, according to Monahan and Klassen (1982), is that they all occur outside the skin.

Reaction potential, the fifth and last major construct, consists of the net strength of a given response after the inhibitory factors have been balanced against the excit-

atory ones. A response will be blocked and cannot occur whenever the inhibitions exceed the instigation. A response is possible (i.e., has a positive reaction potential) if the forces favoring the aggressive response exceed those opposing it. However, all the possible responses must first compete with one another; the one with the highest reaction potential—that is, the greatest capacity to satisfy the most needs at the least cost—should be chosen.

The clinician who attempts to predict the likelihood that a patient will engage in violent behavior or the researcher who tries to interpret the results of an investigation obviously cannot measure the strengths of a person's instigation, inhibitions, or habit strength with any degree of precision, nor is it usually possible to anticipate all the situational factors a client will experience. Nevertheless, it is useful to think in these terms when conducting a clinical assessment, planning a course of treatment, or formulating a research study.

This conceptual frame of reference is also useful in attempting to assimilate and understand the often-confusing literature on aggression and violence. For example, for years there has been a debate over whether it is healthy or desirable for us to express our anger in small doses ("catharsis") or whether children should be allowed to watch violent cartoons ("vicarious aggression"; Geen & Quanty, 1977). Some say these behaviors decrease aggressive tendencies, whereas others argue that they increase them. By using the "algebra of aggression" given above to unravel the situation, it is possible to discern that such acting out might decrease instigation, as the catharsis hypothesis maintains, while simultaneously increasing habit strength and lowering inhibitions, as social learning theorists have argued. This dual effect might account for the mixed and sometimes contradictory results in the literature.

In the pages that follow, each of these constructs will be discussed in greater detail. Specifically, some of the factors that have been found to increase and decrease these variables will be described to aid clinicians in assessing their patients.

INSTIGATION TO AGGRESSION

Sources of Instigation

In the previous edition of this handbook, the primary interest in instigation to aggression was the role it

played in motivating antisocial behavior and violence. This chapter is also concerned with the health consequences of intrinsic instigation. Anger and hostility have been implicated as significant etiological factors in a number of diseases, including cardiovascular disorders such as coronary heart disease (CHD), arteriosclerosis, and hypertension (Chesney & Rosenman, 1985; Ubell, 1990).

The association of instigation to aggression with physical illness underscores the fact that, as biological organisms, all our behavior is necessarily mediated by physiological factors. Hormones, brain centers, nerves, muscles, and even the molecular structure of neurotransmitters and psychotropic substances are all necessarily involved in an aggressive act, just as they are in other forms of behavior (Blanchard & Blanchard, 1988; Depue & Iacono, 1989; Eichelman, 1990; Johnson, 1972; Mark & Ervin, 1970; Mednick, Moffitt, & Stack, 1987; Rajecki, 1983; Svare, 1983; Tupin, 1987). Thus, this chapter will examine both physiological and "psychological" sources of instigation.

Physiological Sources of Instigation. Clinical and personality psychologists interested in aggression and violence often neglect the large body of literature on the physiological correlates of aggression, perhaps because much of it has focused on aggressive behavior in infrahuman species. Nevertheless, we should always be alert to the possible influence of physiological factors.

Until recently, physiological researchers and theorists have generally had to content themselves with demonstrating correlations between certain biological conditions or states and the occurrence of aggressive behavior or violence, often only after an autopsy. More recently, as technology has advanced, physiological research has become increasingly sophisticated, especially as it concerns neuronal and intracranial events (Eichelman, 1990; Nestler & Greengard, 1989). However, the relationships of complex physiological states with macroscopic, multiply determined events such as acts of human aggression still involve considerable conjecture and speculation. Interaction effects are commonplace, and causal connections are often unclear. Therefore, the reader should understand that this discussion of physiological factors is greatly oversimplified, and that I have rather arbitrarily assigned variables to the "instigation" and "inhibition" categories.

The physiological factors that will be discussed are (a) heredity, (b) CNS pathology, (c) endocrinological influences, (d) neurotransmitters, (e) physical illness,

(f) toxic factors and drugs, (g) fatigue, and (h) generalized arousal.

Heredity and Genetic Factors. Few research areas are as ambiguous or difficult to interpret as the genetic factors involved in complex human behavior such as aggression (McLearn, 1969). In the late 1960s, researchers thought they had discovered a possible genetic basis for violent behavior in the XYY "super male" syndrome. Although this attracted considerable attention at the time, more sophisticated longitudinal research established that XYY men, who are extremely rare, exhibit no particular propensity for violence (Witkin *et al.*, 1977), and this syndrome has now been laid to rest alongside Lombroso's 19th-century theory of "atavistic reversals" to more primitive evolutionary stages.

The elimination of the XYY chromosome type as an explanation for male aggressiveness does not rule out the possibility of genetically based predispositions to aggression. The ethologist Konrad Lorenz (1966) argued that instigation to aggression is an innate characteristic of the human species. Although evidence from twin and adoption studies does indicate a possible hereditary predisposition for criminality in general, there is no indication that this applies to crimes of violence (Mednick, Brennan, & Kandel, 1988; Mednick, Gabrielli, & Hutchings, 1984, 1987; Mednick, Moffitt, Gabrielli, & Hutchings, 1986; Mednick, Pollock, Volavka, Teilmann, & Gabrielli, 1982; Mednick & Volavka, 1980). Even though animal breeders have produced highly aggressive strains of fighting bulls, dogs, cocks, and even fish, few contemporary researchers postulate an innate trait of aggressiveness at the human level.

CNS Disorders. Ever since being pinned down for 90 minutes while a sniper with a temporal lobe tumor shot 41 people, I have been especially sensitive to CNS pathology as a possible causal factor in violent behavior. "Rage" and "attack" centers have been identified in the brains of laboratory animals such as the cat (Brain & Benton, 1981; Moyer, 1976), and two decades ago, Mark and Ervin (1970) were able to trigger outbursts of violent behavior by electrically stimulating the amygdaloid nucleus of an epileptic patient by means of an implanted microelectrode.

The evidence with respect to the association between violence and cerebral dysrhythmias is mixed; several studies of violent criminals cited by Mednick *et al.*

(1982) and Volavka (1987) reported finding EEG abnormalities in 25% to 50% of the cases, but these authorities also noted that other studies had found no such association.

What are the implications for clinicians? Clearly abnormal EEGs or other indications of neurological disorders are no indication of aggressive or violent tendencies (Blackburn, 1975; Knox, 1978; Scott, 1975). Clinicians would be better advised to use neurological data to help determine the etiology of demonstrated violent behavior and thereby to plan a course of treatment. Neurological referrals would be particularly advisable in cases in which there are unprovoked violent outbursts and in which other symptoms, such as headaches, vertigo, fugues, or a history of head trauma, suggest a possible organic basis.

Endocrinological Influences. Most of our knowledge of endocrinological influences on aggressive behavior stems from basic research on infrahuman subjects. Indeed, in Svare's (1983) 600-page, 22-chapter tome, *Hormones and Aggressive Behavior*, there is but one 15-page chapter that focuses on humans. The fact that males are typically more aggressive than females, regardless of species, age, or culture (White, 1983), indicates that testosterone is a major factor influencing aggressive behavior (Brain & Benton, 1981; Carson, 1986; Moyer, 1976; Olweus, 1986, 1987; Rubin, 1987; Venables, 1987). This is consistent with the fact that for centuries, farmers and ranchers have gelded stallions and castrated bulls to render them more docile. Among humans, LeMaire (1956) reported that castration reduced recidivism among Danish men convicted of sex offenses, but as Mazur (1983, p. 567) wryly noted, "This may be due to a hormone effect or, alternatively, to the effectiveness of castration as a symbolic deterrent, the parolee wondering what more would be cut off should he be caught again." Some researchers have found increased levels of testosterone among violent individuals, but others have failed to confirm these findings (Carson, 1986; Mednick *et al.*, 1982; Mednick & Volavka, 1980). Olweus (1986, 1987) reported significant correlations between paper-and-pencil measures of verbal and physical aggressiveness and testosterone and adrenaline levels in adolescent boys, but Elias (1981), Gladue, Boecher, and McCaul (1989), Mazur and Lamb (1980), and Schalling (1987) have noted that human males' testosterone levels can be influenced by situational factors, a finding that has also been observed in other species (Mazur, 1983).

Other hormones, notably adrenaline, have also been implicated in human aggression, and the hormonal imbalances associated with premenstrual syndrome (PMS) and thyroid disorders can lead to irritability and a predisposition to aggressive behavior (Baron, 1977; Mazur, 1983). In general, it appears that there is no simple, direct relation between hormones and violent or aggressive behavior in humans. Olweus (1986, 1987) has proposed complex path models of the relationships between hormonal levels and personal, environmental, and situational factors leading to aggressive behavior; as many have noted, complex interactions are clearly involved (Mazur, 1983; Rubin, 1987; Schalling, 1987).

As with CNS disorders, clinicians attempting to evaluate or treat antisocial aggressive behavior should be alert to the possible contribution of endocrinological factors, especially during adolescence, pregnancy, and menopause. In one case, for example, an adolescent boy who was being administered testosterone to counteract a hormonal deficiency came to the attention of police when he exhibited increasingly surly behavior at school, culminating in his terrorizing his classmates with a loaded .38. An embarrassed endocrinologist testified that he had failed to notice that the boy's own testes had started producing adequate amounts of the hormone, and confessed that the lad's uncharacteristic aggressive behavior was probably iatrogenic, resulting from inadvertent overdoses of testosterone.

Neurotransmitters. At the synaptic level, the basic work of neuronal transmission is accomplished by neurotransmitters (Siegel *et al.*, 1989). Recent research suggests that some of these substances are associated with instigation to aggression and others with inhibition of aggressive impulses (Cloninger, 1987; Depue & Iacono, 1989; Eichelman, 1990; Virkkunen, 1987, 1990). Among the substances that have been suggested as contributing to instigation to aggression and aggressive behavior are acetylcholine, gamma aminobutyric acid (GABA), and the catecholamines dopamine and norepinephrine (Cloninger, 1987; Eichelman, 1990). Most of this research is based on studies in which cats, mice, and rats had these substances (or their inhibitors) injected into such key areas of the brain as the amygdala or hypothalamus, after which the effects on predatory and affective aggression were noted (Eichelman, 1990). Although there is little research as yet on humans, in a recent review Eichelman (1990, p. 152) noted that "there has been a remarkable concordance

between the animal research on aggressive behavior and the small number of human neurochemical studies in the literature."

Toxic Substances and Drugs. The possible role played by the ingestion of drugs and other toxic substances should also be investigated. Although most substances that have been linked with aggressive behavior or violence appear to operate by decreasing inhibitions, some, such as phencyclidine (PCP), appear to increase instigation. In recent years, rage reactions have been noticed among some athletes who take massive doses of steroids in an effort to "bulk up" their muscles.

Instigation to aggression can also result when a person who has become physically or psychologically dependent on a drug is deprived of the substance. This may be part of the frustration/aggression mechanism that will be discussed under psychological causes of instigation, but in any event, aggressive instigation can result from drug withdrawal.

In addition to the effects of drugs, either licit or illicit, clinicians should remain alert for toxic environmental factors. Paints, pesticides and pollutants in the air, food, and water can affect behavior. In a juvenile training camp, a boy was referred for paranoid hallucinations and delusions; when his roommate suddenly developed identical symptoms, a toxic agent was suspected. A search of their room uncovered a stash of paint thinner that both had been inhaling.

Physical Illness. Physical illnesses, past and present, should be investigated for their possible contribution to instigation to aggression. As the reader will see, some illnesses influence aggressive tendencies by lowering inhibition levels, but others can make a person irritable and cranky. Charles Whitman, the Texas tower sniper, reported massive headaches, probably caused by his malignant temporal lobe tumor (Mark & Ervin, 1970); if nothing else, these headaches could have increased his level of instigation.

Fatigue. Fatigue is another physical factor that is easily overlooked, yet for most of us, irritability is one result of being tired. A multiple murderer I evaluated had become violent only after he had exhausted himself working two different full-time jobs. In the hospital where he was confined, he had sufficient rest, so it was easy for the staff to minimize the effect that chronic fatigue had played in increasing his instigation. How-

ever, as soon as he was placed on a work release program, unbeknownst to the supervisory staff he once again took a second job, resuming the pattern that had led to his earlier offenses.

Generalized Arousal. A generalized state of arousal or activation can also facilitate aggressive responding (Zillman, 1983). Although arousal can influence many of the variables in our algebra of aggression, lowering inhibitions and making us more aware of potentially threatening stimuli, at least part of the effect is physiological. When the autonomic nervous system is at a high state of activation adrenaline floods the system, and, like a warship at general quarters, the body prepares itself for combat. The eyes dilate to increase visual alertness, the heart rate and respiration increase the oxygenation of the striated muscles, and the digestive system shuts down. These familiar cues in turn increase the sensation of excitement, and this generalized arousal adds to the overall motivation level.

Psychological Sources of Instigation. It is possible to differentiate two broad categories of psychological motivation for aggressive behavior. The first is extrinsic or, to use Buss's (1961) term, *instrumental* motivation. In extrinsic motivation, injuring the target is secondary. The primary goal is to accomplish some other end, such as acquiring money, achieving dominance, or simply doing one's job. Aggressive behavior is the instrument for achieving that extrinsic goal.

The second type is intrinsic or "angry" motivation, in which injury to the victim is the primary goal, and any other benefits are secondary. Intrinsic instigation—or, as it is more popularly termed, anger, hostility, rage, and the like—is what most theorists and researchers are referring to when they write about aggressive motivation and drive. We must consider both types of motives, however, if aggressive drive strength is to be appraised accurately.

Extrinsic (Instrumental) Motivation. In our society, aggressive behavior can be used to accomplish many goals. As Al Capone once said, "You can get much farther with a kind word and a gun than you can with a kind word alone" (quoted by Peter, 1977, p. 141). Although aggressive behavior can be used to accomplish many diverse ends, certain goals are frequently reported in the criminological literature. (A list of some commonly mentioned extrinsic motives is presented in Table 1.) Extrinsic factors can motivate legal, as well as illegal, aggression and violence. Police offi-

cers, correctional officers, military personnel, and athletes are among those who are most frequently called on to engage in physical aggression as part of their professional responsibilities.

Verbal aggression is an integral part of many occupations, especially if, like Buss (1961, p. 1), one defines *aggression* as "delivering noxious stimulation" to someone. Given this broad definition, one could classify as aggressive much of the behavior of judges, tax auditors, and television hucksters. Because clinicians are rarely required to deal with socially accepted forms of aggression, however, these latter examples are less relevant to the present chapter.

One socially approved form of instrumentally motivated aggression is worth mentioning, however. This is the behavior of a person, typically a college student, who is recruited to participate in research as part of a course requirement. During the experiment the student, now referred to as a "subject," may be instructed to deliver noxious stimulation (e.g., an electric shock) to some other hapless subject. Milgram's (1974) studies showed subjects will comply with this demand, even when it appears to involve potentially lethal levels of shock. As Buss (1961) pointed out, given the demand characteristics of the research setting, investigators using this paradigm may be studying instrumental rather than angry aggression.

Intrinsic (Angry) Motivation. Intrinsic motivation can be mild or intense, relatively brief or long-lasting. In the English lexicon, we use different words to make these distinctions: *anger* refers to moderate, short-lived instigation; *hostility* to moderate, long-lasting instigation; *rage* to extreme, short-lived instigation; and *hated* to intense, long-lasting instigation. Unfortunately, many writers use *anger*, *hostility*, and even *aggression* interchangeably.

In their classic monograph *Frustration and Aggression*, Dollard, Doob, Miller, Mowrer, and Sears (1939) postulated that frustration, operationally defined as interference with an ongoing goal response, is the sole cause of instigation to aggression. They further stated that several factors determine the degree of frustration, and thereby the amount of instigation: the strength of the frustrated drive, the degree of interference with the goal response, and the number of frustrated response sequences. These propositions have since been verified in a number of studies. According to this formulation, a person who finds his or her favorite parking space is taken will be more frustrated, and hence angrier, if he or she is already late for an appointment, if all the other

Table 1. Common Sources of Instrumental Instigation

<ul style="list-style-type: none"> I. Personal gains or satisfactions <ul style="list-style-type: none"> A. Acquisition or defense of <ul style="list-style-type: none"> 1. money 2. drugs 3. territory 4. sex B. Enhancement of self-concept by <ul style="list-style-type: none"> 1. proving one's manhood 2. demonstrating courage 3. obtaining attention C. Obtaining affection or respect from <ul style="list-style-type: none"> 1. victim 2. someone else ("knight errant") D. Personal satisfactions and enjoyment <ul style="list-style-type: none"> 1. excitement and thrills 2. testing strength or skills II. Removal of problems, impediments, annoyances <ul style="list-style-type: none"> A. Facilitating other crimes by <ul style="list-style-type: none"> 1. enforcing compliance 2. intimidating victims or witnesses 3. facilitating escape B. Eliminating people who block goals <ul style="list-style-type: none"> 1. incompetent subordinates 2. rivals 	<ul style="list-style-type: none"> C. Enhancing security by eliminating threats <ul style="list-style-type: none"> 1. Enemies 2. Disloyal subordinates 3. Authorities D. Eliminating self III. Achieving personal social goals <ul style="list-style-type: none"> A. Approval or acceptance by group B. Maintenance of group solidarity C. Power, control, dominance over others IV. Achieving political or religious goals <ul style="list-style-type: none"> A. Maintaining established structure <ul style="list-style-type: none"> 1. Oppression 2. State-sanctioned terrorism B. Overthrowing established structure <ul style="list-style-type: none"> 1. Revolution 2. Terrorism V. Altruism <ul style="list-style-type: none"> A. Euthanasia B. Protect someone else <ul style="list-style-type: none"> 1. Family member or loved one 2. Stranger VI. Conformity and obedience to authority
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parking spaces are also filled, and if this is the third time this week that this has happened.

Dollard *et al.* (1939) also postulated that instigation from several different sources of frustration can add together, or summate. According to this principle, the person who failed to find a parking place will be even angrier if he or she had already been aggravated by a dead battery, a flat tire, and a speeding ticket on the drive to work.

Pastore (1952) suggested that the more arbitrary the frustration, the greater the resulting instigation. To return to our example, if our motorist can see that there are plenty of parking spaces available but is prevented from entering the lot because the gate is broken, Pastore's principle would predict even greater frustration and indignation. Cognitive expectancies can also influence the degree of frustration. If the motorist had chosen to sleep late and left for the office half expecting that all the parking places would be taken, he or she would be less frustrated than if he or she had made a point of leaving early to ensure getting a parking place.

Some people are more prone to experience frustration than others; the Type A coronary-prone personalities identified by Friedman and Rosenmann in the

1960s are characterized by impatience and a sense of time urgency that makes it especially difficult for them to tolerate delays or interference with their ongoing goal-oriented behavior (Price, 1982). Given these attributes, it is not surprising to those familiar with the frustration/aggression (F/A) hypothesis that many investigators now consider anger and hostility to be the key elements mediating the association of Type A behavior with cardiovascular disorders and hypertension (Chesney & Rosenman, 1985).

A number of laboratory studies have demonstrated that frustration, as originally defined, can lead to instigation to aggression (Berkowitz, 1962), but that this relationship is not as simple or as inevitable as originally believed (Baron, 1977). Nevertheless, frustration remains a potent antecedent of aggression, and clinicians attempting to assess instigation in their clients should investigate the various sources of frustration in the latter's lives. These include not only discrete incidents but also chronic sources of frustration, such as unsatisfactory interpersonal and familial relationships, economic deprivation, thwarted vocational ambitions, and experiencing unfair treatment such as racism or other forms of prejudice. Because frustration is always

relative to the individual's personal aspirations, it is not always evident to the outside observer. A person who appears to "have everything" may nevertheless have failed to achieve important goals and consequently be frustrated.

One of the chief objections to frustration/aggression theory is Dollard *et al.*'s (1939) assertion that frustration is the *one and only* cause of instigation to aggression. Unless one redefines frustration to the point where it loses any semblance of its original meaning, this position is untenable. For example, there is ample evidence that physical or verbal attacks arouse anger; F/A purists maintain that this is because such attacks frustrate one's need for autonomy or respect. Like many others, however, I have long maintained that it is more parsimonious to add attack to the list of factors that can provoke instigation to aggression (Megargee, 1969). Territorial intrusions (Ardrey, 1966) should also be included, as should jealousy and revenge, even though some may regard these as special types of frustration.

Before leaving the topic of instigation, we should take note of reminiscence. Long after we have experienced some slight or frustration, if we think back upon it, we may find ourselves becoming angry once again. Or, if we have to deal with a person who has provoked us in the past, we may begin the encounter on a hostile note. In evaluating a current incident, clinicians should remain aware of the possible influence of such "ghosts from the past."

Dissipation of Instigation to Aggression

It is as important to assess how an individual deals with anger, rage, hostility, hatred, and instrumentally induced instigation to aggression as it is to ascertain the sources of these motives. How are these drives expressed? What mechanisms are used to dissipate instigation? How successful are they? Once aroused, how long does this person's instigation remain active, and how easily is it rearoused?

Extrinsic instigation to aggression should be dissipated by achieving the desired goal. If the motivation is purely instrumental, this should hold true whether or not the goal was accomplished through the use of aggression or violence. A robber motivated solely by greed should be just as satisfied by winning several million dollars in the lottery as by heisting a Brinks truck. Many terrorist groups, such as the Provisional Wing of the Irish Republican Army (IRA), maintain

that their violence is motivated solely by political (i.e., instrumental) goals—in this case, obtaining the independence of Northern Ireland from British domination. If so, we would expect their terrorist activities to cease once that end was accomplished. If the violence continued, it would indicate that intrinsic as well as extrinsic motivation was involved.

For angry instigation, the most obvious way to dissipate or reduce such motivation is through aggressive behavior. Continuing our Irish theme, if a Paddy in a pub pines to punch a Prod in the proboscis, then smacking the sod in the snout should suffice to siphon off Paddy's spleen. In the more technical terminology, this is called *catharsis* (S. Feshbach, 1984; Geen & Quanty, 1977). Such direct satisfaction of an aggressive drive, however, is not always possible. In such cases, various substitutive mechanisms may be used to dissipate some of the anger or hostility. These include displacement, response substitution, and vicarious aggression.

In *displacement*, the target of the aggressive behavior is shifted. If inhibitions block a child from physically attacking his or her mother, the child might act out aggressively toward some substitute target, such as a sibling, a playmate, or even a doll. In *response substitution*, a more acceptable aggressive response may be substituted for the prepotent response. A child who is inhibited from physically attacking his or her mother might instead express aggressive instigation by having a tantrum, engaging in verbally aggressive remarks, or pouting. Moreover, displacement and response substitution might be used in combination: A person who would like to slug his or her boss may instead go to a basketball game and scream at the referee. In *vicarious aggression*, a person is supposed to dissipate aggressive instigation by watching someone else aggress. The classic example is a child getting an older sibling to thrash a bully. This mechanism is used by media apologists to justify violence in films and television shows; the idea is that people who might otherwise engage in aggressive behavior are able to dissipate their aggressive instigation by watching the "good guys" blow away the "bad guys."

All of these mechanisms involve some change in the target or in the nature of the aggressive response. It has also been theorized that by means of *reaction formation*, we can use nonaggressive behavior to express unacceptable aggressive drives, perhaps by "killing our enemies with kindness"; readers unfamiliar with these techniques are directed to *Miss Manners' Guide to Excruciatingly Correct Behavior* (Martin, 1982, p. 415) for expert guidance. *Sublimation* is another pos-

sible technique. An overly controlled person, for example, might deal with his hostility by writing a chapter on "Aggression and Violence."

Cognitive redefinition of a situation can also dissipate instigation. The anger of a person who is shoved on a crowded sidewalk may vanish upon discovering that the person who did the jostling is blind. *Humor* is another effective way to dissipate anger. If we can learn to reinterpret a frustrating or provocative situation as being humorous, it seems to lessen our instigation. It is perhaps, noteworthy, that most political assassins have been humorless people who take themselves very seriously (Clarke, 1982).

Another cognitive technique is to reduce frustration by lowering one's expectations. If a Type A person can learn to accept the fact that delays are inevitable and to laugh away his or her displeasure, it should reduce the resulting annoyance. Cognitive techniques to minimize the development of instigation are now being recommended in anger-control programs (Feindler & Ecton, 1986; Goldstein & Keller, 1987; Meichenbaum, 1977; Novaco, 1975, 1985).

Although all these mechanisms for the dissipation of aggressive instigation are firmly rooted in psychological theory, their evidential basis is less secure, perhaps applying to certain types of aggression or in certain circumstances more than others (S. Feshbach, 1984; Hokanson, 1970). Even the most straightforward and obvious method—namely, discharging anger by engaging in aggressive behavior—has received mixed results in controlled laboratory settings (Baron, 1977; S. Feshbach, 1984). Learning appears to play an important role in determining the effectiveness of these techniques; for example, Hokanson's (1970) research suggests that the so-called catharsis effect depends in part on whether the subjects expect their aggressive behavior to enhance or to diminish the likelihood of a retaliatory attack.

The findings with respect to the effectiveness of displacement, response substitution, and vicarious aggression are, as one might expect, even more complex. One reason is most studies can only measure the effects of the various experimental manipulations on observable aggressive behavior—which, as has been repeatedly noted, is the result of the interaction of instigation, habit strength, and inhibitions, none of which can be assessed very accurately, along with situational factors. The more researchers attempt to control these factors by inserting additional experimental manipulations and comparison groups, the more difficult it becomes to generalize from laboratory aggression to street violence.

Another complicating factor that clinicians must consider is reminiscence. People may discharge all their instigation, only to rearouse themselves by recalling the original provocation. Cognitive approaches to anger control that intervene to minimize the development of instigation appear to be more promising than techniques aimed at discharging instigation once it has been aroused (Feindler & Ecton, 1986; Goldstein & Keller, 1987; Meichenbaum, 1977; Novaco, 1974, 1985).

Clinical Implications

To summarize the implications for clinical practice, in addition to attempting to assess the strength of instigation directly by means of interview and case history and indirectly through tests, the clinician should also inquire into the client's life-style to evaluate the nature and the degree of instigation-producing circumstances and factors. In doing so, the assessor should make every effort to understand the client's subjective frame of reference and should determine how the client interprets these events. What is rewarding or enjoyable to some may be quite frustrating or annoying to others.

A number of scales are available to assess anger and hostility (Megargee & Menzies, 1971); some, such as those recently developed by Spielberg and his associates, assess the direction and expression of hostile feelings (Spielberger *et al.*, 1985). As Hecker and Lunde (1985) point out, different types of angry or hostile people will require different interventions.

It is important for clinicians to assess not only the overall degree of instigation and the nature and effectiveness of the client's dissipation mechanisms, but also the direction in which the instigation may be focused. This survey should include not only the real people in the client's life, but also individuals who may occupy a symbolic role, such as the President of the United States. For example, even though they had never actually met before the day of the shooting, John Lennon occupied an extremely important symbolic role in the life of his assassin, Mark David Chapman.

The assessment task will be complicated by the fact that, although hostility and hatred are long-lasting attributes, anger and rage are transient emotional states that may not be manifested during a clinical evaluation. For this reason, it is often helpful to continue to monitor the client when feasible, and to ascertain from friends or family members the frequency and degree of anger that the client has displayed in the past, as well as the circumstances that appear to provoke such feelings.

The eventual assessment, which will consider all the various factors in the algebra of aggression, should be able to estimate the likelihood of aggressive behavior toward various targets under differing sets of circumstances.

This assessment should also help guide treatment planning when therapeutic intervention is appropriate. If there is strong extrinsic motivation, nonviolent means for accomplishing legitimate goals should be explored. Similarly, environmental manipulation may help clients to avoid some of the frustrating circumstances that arouse their instigation. A new job or a change of milieu may be helpful. Socially appropriate assertiveness training can be particularly beneficial. Insight-oriented therapy may reveal conflicts, unconscious expectations, or transferences that engender considerable hostility or anger. Clients who are abrasive and antagonistic may benefit from group therapy designed to show them how their behavior provokes much of the hostility that they receive from others. The goal of all these techniques is to reduce the formation of instigation to aggression.

In recent years, cognitive-behavioral therapists have developed techniques designed to help people who have had problems controlling their tempers (Feindler & Ecton, 1986; Goldstein & Keller, 1987; Meichenbaum, 1977; Novaco, 1975, 1985). The goals are to decrease the initial formation of instigation and to deal more effectively with anger once it has been aroused.

The first step is to decrease anger, which is viewed as "an arousal heightening interpretation of an external stimulus" (Goldstein & Keller, 1987, p. 4). This is done by teaching clients to refrain from anger-arousing interpretations of events and by relaxation training. The client is also taught nonaggressive ways of constructively dealing with anger-arousing situations through improved communication and negotiating techniques and prosocial skills training. If these techniques work better than the aggressive tactics used in the past, then the resulting reinforcement should make them a regular part of the response repertoire and more likely to be selected in the response competition.

HABIT STRENGTH

Habit strength, the degree to which an individual has been reinforced for aggressive behavior or violence in the past, is the second major factor to consider. Other things being equal, the more an individual has aggressed successfully in the past, the more likely it is

that the same person will choose an aggressive response in the future. Indeed, in Huesmann and Eron's information-processing model of human aggression, habit strength is the central variable (Huesmann, 1988; Huesmann & Eron, 1984). They maintain that children learn aggressive "scripts" that they maintain through rehearsal and watching television. These scripts are retrieved and utilized when relevant situations arise. (In this cognitive scheme, instigation is only implied, and although they note that some scripts may be rejected if they are unsatisfactory, these authors do not discuss inhibitory factors.)

Sources of Habit Strength

In my conceptual framework, the acquisition of habit strength follows the basic principles of operant learning. Externally motivated aggressive responses are reinforced by the attainment of the desired goal; intrinsic responses by the injury (physical or psychological) to the victim. Unanticipated secondary rewards may also be experienced. A retired bank robber once confided that although his primary goal was money, he also received great satisfaction from the feelings of power he experienced while holding people at gunpoint. Moreover, he thoroughly enjoyed the thrills and excitement—the "adrenaline high," as he termed it—of playing "cops and robbers" with real guns and cars.

Habit strength is probably acquired most effectively through direct experience. The more the culture, the subculture, the peer group, and the family reinforce their aggressive behavior, the more likely it is that children and adults will acquire aggressive habits (Huesmann, 1988; Huesmann & Eron, 1984). Habit strength can also be acquired indirectly through observation or imitation (Bandura, 1983; Huesmann, 1988; Huesmann & Eron, 1984). One explanation for the transmission of family violence from one generation to the next is that children model their behavior after their parents; if their parents are aggressive or even violent, then the children may acquire aggressive propensities from observing their behavior. Although plausible, there is, as yet, no rigorous empirical evidence supporting this proposition (Clausen, 1989).

If violent habits can be acquired indirectly by observation, there is indeed cause for concern. Numerous surveys as well as everyday observation attest to the widespread glamorization of violence in the media, the effect of which may be to decrease inhibitions against such behavior and to increase habit strength. This is

consistent with the associations between viewing television and aggressive behavior that have been noted in numerous field studies, as well as in laboratory research reviewed by Eron and Huesmann (1986) and by Geen (1976, 1983).

The reinforcement of an aggressive response, either directly or, to a lesser extent, through observation (Bandura, 1983) or by rehearsal through fantasy (Huesmann, 1988; Huesmann & Eron, 1984) should strengthen the tendency to perform that response in similar circumstances in the future. Moreover, the effect should also generalize to other aggressive responses. The more closely these behaviors resemble the reinforced aggressive act, the greater the degree of generalization that can be expected. Thus, children who have observed parents verbally abusing umpires or referees at sporting contests should be more likely to engage in such behavior themselves. If they are reinforced for berating Little League umpires, then in the future they should be more likely to criticize other adult authority figures, such as parents or teachers.

Decreasing Aggressive Habit Strength

Once acquired, habits are difficult to eliminate. Aggressive habits are no exception. Extinction, the repeated performance of a particular response or class of responses in the absence of any reinforcement, is the only sure way to eradicate habits, but with aggressive behavior this procedure is virtually impossible. There is simply too much reinforcement for aggression in our culture.

Sometimes, one can arrange the environmental contingencies so that aggression is no longer effective in producing some extrinsic rewards. Angry aggression, however, is immediately rewarded by the injury to the victim. If one fails to eliminate reinforcement totally, then the aggressive individual experiences partial reinforcement which makes habits even more resistant to extinction.

Punishment may suppress aggressive behavior, but it does not appear to diminish habit strength significantly.* It may simply promote discrimination learning, teaching people to aggress when they are least likely to get caught. Indeed, punishment can be a double-edged sword. In some instances, punishment may paradoxically be rewarding. Many children would rather be chastised than ignored; the punishment itself

*Capital punishment is an exception to this rule.

may be unpleasant, but the attention associated with it may gratify some needs.

For these reasons, the systematic application of the principles of extinction is rarely used in the treatment of aggressive behavior disorders. Although punishment is used in child rearing and by the criminal justice system, some authorities maintain that reinforcement of socially acceptable competing responses is more likely to be effective (Brown & Elliott, 1965).

Clinical Implications

Unlike instigation and inhibitions, habit strength is relatively easy to assess if one has a good case history. The more a person has used aggression to accomplish extrinsic goals, the more frequently an individual has lashed out when provoked or angered, the more likely it is that he or she has acquired aggressive habits that will lead to future aggression.

The case history provides us not only with an indication of the frequency of the aggressive behavior we might expect, but also with an idea of the intensity and the form that such aggression might take. The past is hardly an infallible guide to the future, but we can assume, for example, that someone who has used a weapon in the past is more likely than most to use one in the future.*

Turning to treatment, those who use aggression as a way of securing extrinsic goals should be taught socially acceptable ways of achieving their legitimate goals, and then reinforced for practicing these alternative responses. If the treatment personnel have control over the contingencies, they should also seek to minimize the reinforcement for unacceptable modes of aggression, insofar as this is possible. Aggressive fantasy and game playing should also be discouraged. Unfortunately, this plan may not work in actual practice, because some clients' repertoires of abilities and skills may not allow them to obtain certain goals legitimately. Realistically, most bank robbers will probably not be able to find other ways of securing as much money with as little effort, unless, of course they are able to enter politics.

It is more difficult to decrease intrinsic or angry aggressive habits, because the immediate reinforcement contingencies are likely to be out of the control of

*Of course, success or failure can modify habits. When one of our subjects was about to leave a federal prison after serving several years for robbing a bank with a pistol, he vowed that he had learned his lesson and would never make that mistake again. Next time, he said, he would use a machine gun.

the treatment agent. Rather than attempting to introduce extinction schedules, therapists would do better to attempt to strengthen competing responses and to foster inhibitions.

INHIBITIONS AGAINST AGGRESSION

Inhibitions against aggression refer to all those factors that may operate to impede, oppose, or block an aggressive act. Internal inhibitions, or taboos, include learned moral injunctions that stipulate that aggression in general is wrong, that particular aggressive acts are forbidden, or that aggressive acts directed at certain individuals or under certain circumstances are reprehensible. In addition, aggressive behavior is also inhibited by pragmatic, common sense concerns. These include the perceptions that the aggressive act is likely to fail in its purpose or that bad things may happen to the aggressor.

Sources of Inhibitions

As with instigation, both physiological and psychological causes of inhibitions have been discussed in the literature. There has been much less research on inhibitions than on instigation, however, partly because of some unavoidable methodological and conceptual difficulties (Megargee, 1990, in press).

Most personality constructs refer to "positive" attributes; that is, for terms such as *anger*, *anxiety*, or *affection*, one can readily come up with a list of characteristics that describe people who exhibit that trait and of things that they would be likely to do or say. Not so with inhibitions, a construct that refers to the tendency of people to *refrain* from doing things that they consider wrong or ill-advised. Just as value systems differ from person to person and culture to culture, so too, will the specific behaviors that are inhibited vary.

Secondly, inhibitions must be defined by exclusion. Before we can conclude that someone's failure to perform some act results from an internal inhibition, we must rule out other alternative explanations. These might include lacking the relevant motivation, being incapable of performing the act in question, or preferring to engage in some other activity. Thus, before we can conclude that most high school students refrain from building bombs in chemistry class because of internal inhibitions, we would have to rule out the possibilities that (a) they don't want to build bombs, (b) they lack the necessary ingredients or knowledge

needed to build bombs, or (c) they simply prefer to engage in some other activity, such as ogling attractive members of the opposite sex.

To further complicate matters, we cannot infer an absence of inhibitions if aggressive behavior does occur. If we do find a bomb builder in the chemistry class, it only means that his or her instigation exceeded inhibitions, not that inhibitions were totally lacking.

These conceptual and definitional problems make it challenging for investigators to formulate satisfactory operational definitions for research on internal inhibitions. Somehow, they must design studies that will allow them to study the nonoccurrence of certain aggressive acts in organisms that are demonstrably motivated, able, and otherwise willing to behave aggressively. Because inhibitions are inherently tougher to investigate than instigation or habit strength, it is not surprising that there are more conjectures and fewer established facts regarding their origins and development (Megargee, 1990, in press).

Physiological Sources of Inhibitions. Inhibitions have physiological as well as psychological sources. Five will be discussed: hereditary and genetic factors, the central nervous system, neurotransmitters, chemical factors, and physical illness.

Heredity and Genetic Factors. Some theorists, notably ethologists such as Lorenz (1966), have postulated that inhibitions against aggression are innate, and animal breeders have bred docile as well as vicious strains of domestic animals. However, although some theorists presume that our general ethical senses have an evolutionary—and hence genetic—basis (Hogan, 1973), and others go so far as to argue that specific inhibitions such as the incest taboo are innate (Lindzey, 1967), genetic explanations of inhibitions against aggression are rarely offered.

Central Nervous System. Neuroscientists now realize that they need to explain why organisms stop or refrain from behaving in certain ways. Centers that inhibit aggressive behavior (e.g., predatory attacks) have been localized in the brains of rats and cats (Brain & Benton, 1981; Moyer, 1976). In humans, research is focusing on the amygdala and on the temporal lobes, since it has been known for some time that lesions in these areas are associated with impulsivity (Mark & Ervin, 1970). The possible role of hemisphere asymmetry in antisocial behavior is also being investigated (Nachshon & Denno, 1987).

On a more macroscopic level, psychologists who have studied moral development have noted a series of distinct developmental stages (Kohlberg, 1984; Piaget, 1932; Selman, 1980). It seems likely that these stages correspond with, or at least depend upon, the normal maturation of the cortex in the growing child.

Neurotransmitters. It was noted previously that certain transmitters appear to be associated with instigation to aggression. Serotonin (5HT), on the other hand seems to be associated with inhibitions against aggressive behavior (Eichelman, 1990). Basic research is also focusing on uptake mechanisms and postsynaptic chemical changes in an effort to learn more about how neurotransmitters stop postsynaptic stimulation (Nestler & Greengard, 1989).

Chemical Factors. Recent animal research has focused on how certain drugs, administered either by injection or directly to relevant brain centers (e.g., the anterior hypothalamus), can suppress characteristic aggressive behaviors in laboratory animals (Adamec, 1990; Kemble & Rawleigh, 1990; Potegal & Ferris, 1989). More familiar to clinical psychologists are the psychotropic medications that chemically inhibit aggressive behavior and violence (Cloninger, 1987; Tupin, 1987). Administered in controlled settings, these substances can greatly decrease the rate of violence in institutions. The pharmacological treatment of short-term emergencies differs from the procedures required for long-term patient management (Tupin, 1987), and as is always the case, the use of psychotropic medications with juveniles poses special problems (Lewis, 1987, pp. 150–152). One difficulty associated with the chemical control of violent behavior is that patients who were quite docile in the hospital may cease taking their medication and resume their aggressive behavior patterns when released.

Physical Illness. Physical disabilities and illness can also inhibit people from aggressive acting out. In evaluating a threat, an important consideration is whether the person making the threat has the mental and physical capacity to formulate a plan of action and carry it out.

Psychological Sources of Inhibitions. Several psychological sources of inhibitions against aggression and violence have been identified. These include anticipated adverse consequences (e.g., punishment), introjected moral values and attitudes, and empathy or compassion for the potential victim.

Anticipation of Punishment. Dollard *et al.* (1939) attributed inhibitions against aggression to anticipation of punishment. According to the principles of operant learning, the consistent association of aggression with adverse consequences to oneself or to people one cares about should, over time, result in conditioned inhibitions against performing those aggressive acts and, through response generalization, other similar acts. Thus, according to this formation, even though punishment may not diminish the strength of already-acquired aggressive habits, it may prevent such habits from being formed.

For older children and adults, however, it is rare that the environmental contingencies are sufficiently controlled so that aggressive behavior is inevitably followed by punishment. In the absence of such controlled contingencies, discriminations are apt to form. For example, the child may discover that physical aggression against a parent is invariably punished, whereas similar behavior against a peer is only occasionally chastised. Given this difference, one would expect greater inhibitions to become associated with the former target than with the latter.

Introjected Moral Values. If the anticipation of externally imposed punishment were the only source of inhibitions, the incidence of socially deviant behavior, including violence, would be vastly greater than it is. Fortunately for civilization, most people acquire an omnipresent, ever-watchful guardian who is even quicker than their parents to punish any act of omission or commission that fails to meet its standards. This guardian is variously known as morality, conscience, or the superego, and the guilt it induces for disapproved behavior is the basic bulwark of socialization.

In a recent chapter on the development of inhibitions and controls, I noted that theorists disagree regarding the mechanisms whereby children are socialized to the values of their family and culture (Megargee, in press). Some cite conditioning and some social learning, whereas others attribute this process to maturation or the resolution of the oedipal complex (Hoffman, 1977; Laufer & Day, 1983; McCord, 1983; Olweus, Block & Radke-Yarrow, 1986).

Although the specific mechanisms are disputed, there is general agreement, not only in psychology but also in other disciplines, about the conditions that are most conducive to developing good systems of values. Consistent with Maslow's hierarchy of motivation, the child's basic needs for food, water, shelter, and safety must be met; socialization takes a back seat to survival

when flames, floods, or famine threaten one's very existence.

Unless one is living in Beirut, Bangladesh, or Sudan, the most salient factor in socialization is a warm, nurturing environment characterized by affection and mutual respect, in which children are exposed to a stable, consistent set of values, in which discipline is enforced fairly and reliably, and in which all the agents of socialization (including family, neighbors, school, and church) share a common set of beliefs that they uphold and live by in their everyday lives (Glueck & Glueck, 1950; Hoffman, 1977; McCord, 1983, 1986; Radke-Yarrow & Zahn-Wexler, 1986).

Every culture and society has rules governing aggressive behavior and the conditions and circumstances under which various forms of aggression are allowed or forbidden. The more thoroughly the child is socialized in his or her culture, the more these values will be internalized and used to govern behavior.

Empathy and Compassion. In addition to conditioned anticipation of punishment and introjection of parental and cultural values inhibitions against aggression are also fostered by empathy and identification with the potential victim of an aggressive response (Miller & Eisenberg, 1988). Generally speaking, the closer we feel to people and the more we are aware of a common bond of humanity, the more difficult it is for us to injure or harm others. Empathy is a function of proximity, similarity, familiarity, and the amount of time spent together. One reason that hostage negotiators stall for time is to maximize the opportunity for the hostage takers to develop feelings of sympathy and compassion for their captives.

Various parameters can influence the relationship between empathy and aggression (Miller & Eisenberg, 1988). For example, N. D. Feshbach, who has studied empathy extensively, recently reported the relationship between empathy and aggressiveness in a school setting varied as a function of the degree of structure of the class and the gender of the student (Rose & Feshbach, 1990).

Factors Decreasing Inhibitions

For inhibitions against aggression to operate, three things must occur. First, at some point in his or her development, a person must have learned and adopted a rule to the effect that one should not engage in the aggressive behavior that he or she is tempted to perform. This rule may be general, prohibiting a broad

range of aggressive behavior in a wide variety of circumstances, or quite specific, applying only to a narrow range of aggressive acts or to certain limited situations or targets.

Second, the individual must classify the proposed behavior as belonging to that class of acts that is prohibited. Everyone agrees that rape is wrong, but McDonald (1982) demonstrated that people differ greatly in the sexual encounters that they classify as constituting rape. For example, some people believe that there is no such thing as marital rape, or that a prostitute, by definition, cannot be raped. If a man does not regard a particular sexual encounter as rape, then his inhibitions against raping someone will not be activated.

Third, if we have developed a code of ethics that prohibits certain aggressive behaviors, and if we recognize that the act we are contemplating is contrary to these values, then we must decide whether or not to abide by these rules. It is this third step that we generally think of when we discuss whether or not inhibitions will deter aggression, but it is important to recognize that the first two steps must occur before any existential struggle of good versus evil can occur. Once we reach the third stage, we will soon discover that there are more ways to diminish inhibitions against aggression than there are to foster them.

Physiological Factors. Physiological factors can diminish as well as enhance inhibitions.

Heredity and Genetic Factors. Over time, selective breeding of many species could probably produce strains that behave in a more impulsive, less inhibited fashion than the original parents. Once an individual organism has acquired his or her basic genetic map, however, there is little that can be done to alter it. Thus, heredity is one of the few sources of inhibitions that is relatively immutable.

CNS Factors. Clinical studies in humans and physiological experiments with animals have shown that temporal lobe lesions and injuries to the hypothalamus and amygdala may result in more impulsive, less controlled behavior (Mark & Ervin, 1970). In humans, ethical prohibitions, including those against aggression, appear to be mediated in large measure by the neocortex, the part of the human brain that evolved most recently. The functioning of the neocortex can be impaired by all sorts of endogenous and exogenous factors, including developmental deficits, anoxia, fever, malnutrition,

disease, toxins, tumors, and traumas. It is a fairly safe generalization that if something adversely affects the cortex, it more likely to increase impulsivity and to decrease inhibitions and judgment than the reverse. Among the ethical constraints that may be lost or impaired are those against aggressive acting out (Buikhuisen, 1987; Nachshon & Denno, 1987).

Endocrinological Influences. Endocrinological factors can lower our inhibitions and make us more impulsive (Brain & Benton, 1981; Moyer, 1976). In the case of sex hormones, many of us probably owe our very existence to the fact that, under the influence of their raging hormones, our parents once took a chance and engaged in unsafe sex. Unfortunately, hormones can lower our inhibitions against aggression as well as propagation.

As noted earlier, the sympathetic division of the autonomic nervous system prepares a person to "fight or flee." Under a high state of autonomic arousal, an individual is hypervigilant, ready to respond at the first sign of an emergency. Thus, some of the inhibitions that would normally be operative are temporarily diminished.

Illness. Certain diseases, such as general paresis, the senile and presenile psychoses, and the neurological sequelae of juvenile encephalitis, can also impair ethical sensitivity and judgment, thereby lessening inhibitions. And as noted, to the extent that ethical behavior is mediated by the cortex, any acute or chronic condition that impairs cortical functioning may make a person less inhibited and more impulsive.

Quite apart from its effects on the central or autonomic nervous systems, a life-threatening physical illness can also diminish inhibitions. As Gottfredson (1988) recently noted, the less one has to lose, the more one might be inclined to take risks and engage in violent behavior.

Chemical Influences. As already noted, certain psychotropic medications have the effect of chemically increasing patients' inhibitions. Their effect is probably to assist them in resisting temptation. If these medications are withdrawn or if the patient ceases to take them, inhibitions would be expected to revert to their usual level.

Other chemical substances, most notably alcohol, have a disinhibiting effect, especially when it comes to aggressive behavior (Bushman & Cooper, 1990). Whether this stems from actual anesthetization of the

cortex, from social expectancies (Lang & Sibrel, 1989), or from a combination of physiological and psychological influences (as Bushman and Cooper's, 1990, recent meta-analysis indicates), ingesting alcohol fosters aggressive behavior. Virkkunen (1987, 1990) has called attention to the fact that some habitually violent, chronic alcoholics diagnosed as suffering from antisocial personality disorder are characterized by a peculiar syndrome that includes hypoglycemia which enhances insulin secretion, and low cholesterol and low serotonin. Virkkunen suggests that some men who habitually aggress while drinking may be suffering from a metabolic disorder (1987). Whatever the specific mechanism, clinicians should examine the client's use of alcohol and the relation of drinking to aggressive behavior.

Psychological Factors. Circumstances surrounding a child's upbringing may lead to the development of deficient or deviant values. As noted, normal socialization depends upon having one's basic survival needs met and is fostered by growing up in a warm, cohesive, nurturing home with a coherent set of values that are enforced fairly and consistently. If these needs are not met, children may grow up with inadequate values, a finding that has been well established in the literature on juvenile delinquency (Glueck & Glueck, 1950; McCord & McCord, 1959; Megargee, Parker, & Levine, 1971; Nye, 1958; Rosenquist & Megargee, 1969; Wilson & Herrnstein, 1985).

Somewhat different circumstances may result in a child growing up with deviant values that are out of step with those held by the larger society. Among the factors that have been identified by criminologists and sociologists are culture conflict (Sellin, 1938), association with deviant role models (Sutherland, 1939) such as those encountered growing up in the "subculture of violence" (Wolfgang & Ferracuti, 1967), and the strain produced by an "anomic" society that espouses inconsistent or conflicting values (Cloward & Ohlin, 1960; Merton, 1938; 1957). Later, the experience of being labeled as deviant because of some minor transgression might have the effect of leading a person to adopt the deviant label and its associated values. According to this perspective, if, as a result of a schoolyard scuffle, some boys are taken to juvenile court and labeled delinquent, they might accept that designation and behave accordingly (Becker, 1964; Garfinkel, 1956; Lemert, 1967).

With respect to aggressive or violent behavior, a person who is basically unsocialized or undersocialized

may not introject his or her society's rules governing aggressive conduct. Or, a person growing up in a deviant or anomic subculture may learn rules regarding aggressive behavior that differ from those held by the larger society. If so, their inhibitions with respect to aggression may be either inadequate or inappropriate.

In the previous section, I noted that when punishment follows aggressive behavior, anxiety might be conditioned to such behavior. According to the Yale group (Dollard *et al.*, 1939), such conditioning forms the basis for learned inhibitions against aggression. If so, we would expect these learned inhibitions to follow the well-established laws of acquisition and extinction. Specially, if an individual performs a forbidden response and the anticipated punishment is not forthcoming, then the anxiety should decrease somewhat. If this sequence is repeated, eventually the inhibitions will extinguish. A similar, albeit somewhat lesser, effect should result if a person observes someone else aggressing with impunity, either directly or indirectly via television. The extraordinary amount of violence portrayed on TV cause many to fear that regular viewers' inhibitions against aggression will be significantly decreased (Parke, Berkowitz, Leyens, West, & Sebastian, 1977).

Earlier I noted that a person's conscience or moral code is a potent source of inhibitions, since it monitors one's behavior more closely than an external agent such as a parent or policeman. This is where cognitive behavior plays a role, because most of us are adroit at finding ways to convince ourselves that the ordinary rules do not apply in this particular instance. Among these techniques are rationalization and neutralization (Sykes & Matza, 1956), as well as the juxtaposition of conflicting values (Merton, 1938, 1957).

All of these techniques can be seen in the ethical reasoning of the pioneers who settled the western frontier. Most were God-fearing folks who sincerely felt that it was wrong to take a human life or to steal a person's property. Nevertheless, by the end of the 19th century, they had virtually wiped out the Native Americans and acquired most of their land. Some of the land was acquired via "treaties" in which the Native Americans were paid a pittance for the property, as in the purchase of Manhattan Island for a few baubles. As long as a price was paid, however puny, it could be considered shrewd bargaining rather than theft. Another technique was to redefine ownership as occupation and development of land. Thus, native tribes who only "used" the land to support the bison on which their livelihood depended effectively lost any property rights to settlers and farmers.

Most Native Americans and Europeans agreed that self-defense justifies violence. For the Native Americans, defense of their territory and way of life justified attacking the Europeans, and most settlers had little compunction about shooting back in defense of their families and what they regarded as their homes. Attacking Indian villages and killing noncombatants could be rationalized in several ways. First, it could be viewed as an extension of the principle of self-defense: If you did not kill the warriors, they might someday kill you. If you spared the women, they would breed male children who would eventually become warriors. Second, because Indians had occasionally killed white women and children, talion law (i.e., an "eye for an eye") could be used as a justification. Finally, some settlers felt that the rules regarding property and human rights applied only to human beings, which they functionally defined as males of European ancestry.

This leads us to inhibitions stemming from empathy. Anything that differentiates or dehumanizes the potential victim can decrease the empathy an aggressor might feel. Moreover, the more would-be aggressors are dehumanized and deindividualized, the easier it is for them to suspend their individual inhibitions (Prentice-Dunn & Rogers, 1983). People who have been issued uniforms and made anonymous members of a group such as a military unit are more likely to suspend their individual codes of morality and follow the dictates of the group or its leader. If the uniform includes masking one's face, such as the hoods once donned by the Ku Klux Klan or the gas masks worn by the National Guard members at Kent State, it is even easier for people to suppress individual responsibility for their actions.

In June 1989, when Chinese troops slaughtered thousands of protesting students in Beijing's Tiananmen Square, a number of these empathy- and inhibition-reducing factors were evident. The local army garrison, who because of familiarity and propinquity might be sympathetic to the students, was replaced by uneducated provincial troops who were told they were facing vicious counterrevolutionaries who had already lynched some soldiers. Before any orders were given to shoot into the crowd, dozens of fusillades were fired into the air, thus lowering soldiers' inhibitions against using their weapons in the city. It was nighttime, and smoke further obscured the amorphous mob when the tanks were finally ordered to attack. Isolated inside their armored vehicles, the soldiers were probably unable to discern the effects of their fire, and in any case, it was no doubt obvious that any individual protest would be futile.

Six months later, Romanian soldiers confronting a square filled with protesters were also ordered to shoot. This time, however, local troops were facing their friends and neighbors in broad daylight. Their inhibitions against such aggression prevailed and, instead of shooting, they joined the crowd and turned their guns on the secret police who had ordered the massacre, thereby precipitating the downfall of the Ceausescu regime.

Clinical Implications . . .

With respect to clinical assessment, the most obvious implication is that inhibitions as well as instigation need to be considered. Unfortunately, because inhibitions are manifested by the absence of the prohibited behavior, they are inherently difficult to assess. Psychological tests such as the Socialization scale of the California Psychological Inventory (Gough, 1987) can indicate the overall adequacy of a client's code of values, but in contrast with anger and hostility, there is a dearth of measures assessing inhibitions against aggressive behavior.

As always, past behavior, as reported in the case history or by people familiar with the client, is helpful. Sometimes inhibitions can be inferred from a failure to manifest aggression when the situation calls for it. Direct measures may include a client's behavior during a provocative stress interview, in group therapy, or in a role-playing situation conducive to hostile or aggressive behavior.

Strong inhibitions against aggression do not necessarily rule out the possibility of assaultive behavior or violence. Some extremely assaultive people are paradoxically characterized by massive inhibitions against the overt expression of hostility or aggression. In the "chronically overcontrolled assaultive type" (Megargee, 1966), instigation can accumulate to the point where it overwhelms even massive inhibitions, so that homicidal violence results.

Because inhibitions can vary as a function of the type of aggressive behavior, the nature of the victim, and the situational circumstances, the clinician needs to explore these parameters. Mechanisms that can reduce inhibitions, such as propensity for rationalization or the use of alcohol, also need to be examined.

Inhibitions must be carefully considered in formulating treatment plans. The specific goals will vary depending on the careful diagnosis of the factors involved in each individual case (Hecker & Lunde, 1985). Some violent individuals will be found to be lacking in inhibitions against aggression, some as part

of a general deficiency in ethical values or "superego strength" (as in the psychopath), and others as a result of being raised in a subculture or family that did not inculcate inhibitions against aggression. In these cases, the goal of treatment is to foster inhibitions against socially unacceptable aggressive behavior, but the specific strategy will vary according to the assessment of the nature and degree of socialization. Socializing a basically unsocialized person is a long and difficult chore (Roth, 1987). Those who have committed serious criminal offenses may have to be incapacitated by means of imprisonment for the protection of society during this period.

In other cases, it will be found that instead of deficiencies or gaps in the value structure, the person has adequate values that were suspended or rendered ineffective by alcohol, the effects of being part of a group, induced value conflict, or one of the other dissipation mechanisms that have been discussed. The treatment strategy will vary accordingly.

Whereas fostering inhibitions or rendering existing inhibitions more effective is the goal for the treatment of the undercontrolled assaultive type (Roth, 1987), the overcontrolled type requires a radically different approach (Megargee, 1966). Such people require training in socially acceptable methods of expressing aggressive instigation. Assertiveness training, for example, may help them alter their life-style so as to reduce frustrations and attacks while discharging some of their instigation before it can summate to the point of rage (Quinsey, Maguire, & Varney, 1983).

SITUATIONAL FACTORS

Researchers who study aggression in animals tend to be more aware of situational factors that elicit aggression than those of us who focus on human aggression. Animal researchers know that it is often necessary to trigger aggressive behavior in some fashion. Tinbergen (1953, 1968), for example, introduced model fish of various shapes and colors to see which elicited aggressive behavior in male sticklebacks, and Potegal and Popkin (1985) demonstrated that introduction of a target hamster into a female hamster's home cage yielded not only the expected attack but an increased readiness to attack other targets that lasted several hours.

Whereas animal researchers must consider the stimuli and events, such as territorial intrusions, that elicit aggressive behavior in the field (Goodall, 1978) and the laboratory, researchers who investigate human aggression typically concentrate on the characteristics of the

aggressor more than the situational aspects. This emphasis is not surprising: after all, it is an interest in people and personality factors that led most of them to study psychology. There are many more measures available for evaluating people than there are for assessing situations, and in addition, people are much more accessible for study. In hospitals or prisons, they are readily available to the mental health profession, but the settings from which they came and to which they will return are often geographically remote. Even in "community" treatment settings, psychologists rarely make house calls.

Nevertheless, the situational factors to which the clients are exposed and the conditions in which they live are extremely important. As noted, environmental factors can moderate the relation of personality factors (e.g., empathy) to aggression (Rose & Feshbach, 1990). Given strong enough threat or provocation, almost anyone may become violent. Even though few of you reading this chapter probably consider yourselves to be violent individuals, most of you can probably imagine circumstances in which you might resort to violence.

The importance of situational factors was evident in the Tiananmen Square massacre, in which young Chinese peasants conscripted into the army were placed in a situation in which they slaughtered thousands of other young people. Growing up in the countryside, it is unlikely that any of them ever dreamed that their first visit to Beijing would end as it did.

Cognitive theorists correctly stress the fact that it is each individual's *interpretation* of a situation that is of paramount importance. Granted that this impression may be idiosyncratic or incorrect (according to our understanding), nevertheless it is the meaning each person assigns to the stimulus that determines his or her response. To the Americans who were transfixed by the televised scenes from Beijing, the protesters were patriotic students who were simply seeking basic human rights, but to the soldiers, they were a dangerous revolutionary rabble.

External factors can be divided into environments, settings, situations, and stimuli to demarcate a rough continuum from widespread to focal influences. For example, in July 1988, the decision by the captain of the USS *Vincennes* to shoot down an incoming plane that proved to be an Iranian jetliner was probably determined much more by situational factors than by his individual personality characteristics. In this case, the overall *environment* was that of being in command of a U.S. naval vessel in a war zone in which certain

rules of engagement prevailed and in which another American warship had recently been disabled by an airborne missile attack. The *setting* was the cruiser's combat control center while the ship was at general quarters; presumably, everyone was at a high level of arousal, and only battle-relevant information was being communicated. The *situation* was that *Vincennes* had been attacked by Iranian gunboats and had fired in response. The *stimulus* was the report of an incoming jet, incorrectly identified as a fighter that appeared to be in attack mode.

The boundaries between these terms are not significant. The important thing is that we recognize a wide range of situational influences and that some situational factors facilitate aggression, whereas others impede it. If the *Vincennes* had been in a different environment (e.g., sailing into Norfolk harbor instead of the Persian Gulf), the stimulus of an approaching jet undoubtedly would not have elicited a command to fire.

It should be obvious from the above example that situational influences involve times as well as places. Naval personnel behave differently when a ship is at general quarters than they do when it is not on alert. Central Park in New York City is not the same between 2:00 a.m. and 4:00 a.m. on a Sunday morning as it is from 2:00 p.m. to 4:00 p.m. on Sunday afternoon. Of course, personality and situational factors are not independent. Those peaceful people who flock to Central Park on a sunny afternoon generally shun it in the early-morning hours, which are when the park attracts predators seeking excitement who roam its environs, looking for suitable prey.

Situational Factors Influencing Aggression and Violence

A detailed discussion of all the manifold stimuli that can facilitate or inhibit the expression of aggression would be far beyond the scope of this chapter, even if our present state of knowledge permitted such a treatise to be written. Monahan and Klassen (1982, pp. 301–306) singled out the family environment, the peer environment, and the job environment for special discussion, along with the availability of alcohol, potential victims, and weapons. Other authorities have examined broader influences, such as ambient temperature (Baron & Ransberger, 1978; Megargee, 1977) and architectural design (Newman, 1972). In this chapter, I will focus on the behavior of antagonists or victims, the behavior of associates and bystanders, access to victims, crowding, and the presence of weapons.

Behavior of Antagonists or Victims. In his classic study of homicides in Philadelphia, Wolfgang (1958) estimated that 25% were precipitated by the victims. Such violence sometimes occurs at the end of a lengthy scenario in which two antagonists steadily escalate a confrontation, having implicitly agreed that violence is a more acceptable outcome than backing down or losing face (Luckenbill & Sanders, 1977; Toch, 1969). Although anger might have provided the initial impetus, by the end of the encounter such extrinsic motives as dominance, power, respect, and status are clearly involved. Either party or both may end up as the eventual victim, but both are mutually involved as coparticipants.

In contrast to fights between relative strangers is the violence that sometimes occurs in the context of an ongoing, long-term relationship (Gelles, 1981; Ohlin & Tonry, 1989; Russell, 1988). Continuing violent behavior between marital partners, whether it be the husband who batters the wife or vice versa, often serves a functional role in the relationship, and such extrinsic motives as needs for dominance, power, attention, and communication may be involved in addition to anger. The meaning of the violence to both partners, the context in which it occurs, and the function it serves in the relationship all need to be evaluated. This is true in other forms of intrafamilial aggression as well, such as that occurring between parents and children. In such cases, Patterson (1985) advocates examining the actual parent-child interactions as they occur in natural settings.

Behavior of Associates. When a person is a member of a reference group whose favorable regard is important to the individual, there is a natural tendency to allow the consensual judgment of the group to influence or even supersede personal decision making. Social psychological experiments on the so-called risky-shift phenomenon have determined that a group will often adopt a more extreme position than any of its individual members would have taken (Myers & Lamm, 1977). Similarly, there is a strong tendency for people to conform to a peer group's judgment, even if they perceive it to be erroneous (Asch, 1951).

In the context of aggressive behavior and violence, a person who belongs to a group may go along with aggressive behavior even if it contravenes that individual's own values or inclinations. According to Groth (1979), most participants in gang rapes, for example, are motivated more by a desire to maintain group solidarity than they are by sexual or aggressive drives.

Bystanders' Behavior. It is no secret to cheerleaders that bystanders can influence aggressive behavior. When an escalating scenario of violence between two antagonists is played before a cheering or jeering audience, it may be more difficult for the parties involved to back down and lose face. Police officers are well advised to take a potentially violent offender into custody when he or she is alone rather than with a group of friends.

Bystanders can also inhibit aggressive behavior. In a detailed study of professional hockey games, Russell (1983) demonstrated that the aggressiveness of the players on the visiting team decreases as the size and density of the crowd supporting the home team increases. The presence of authority figures such as teachers or police can also inhibit aggression, as can the intervention of peacemakers who attempt to defuse the situation or separate the adversaries.

Opportunities to Engage in Violence. Criminologists have pointed out that three elements are necessary for the commission of a crime: a potential offender, a potential victim, and an absence of either barriers or guardians whose presence might prevent the commission of the crime (Cohen & Felson, 1979). As psychologists, we typically focus on the first element, namely, the potential aggressor. This formulation suggests we should also examine the two ecological aspects: the availability of victims and the presence of barriers or guardians. For example, with the rise in the number of households headed by women and the concomitant increase in the number of women who work outside the home during the day, more women are shopping by themselves in the evening than there were a generation ago. With more potential victims and fewer guardians, an ecological analysis would predict an increase in the number of purse snatchings, muggings, and rapes occurring in poorly lit parking lots.

Crowding. Crowding is another situational factor that has been associated with violent behavior. Obviously, an individual who lives in a crowded ghetto has more opportunities for interpersonal violence than a forest ranger stationed on a remote mountaintop. But even apart from the greater opportunity for aggressive interactions, there is evidence that chronic overcrowding is conducive to interpersonal friction. This is especially true in confined areas such as jails and prisons (Megargee, 1971; Nacci, Teitelbaum, & Prather, 1977; Paulus, McCain, & Cox, 1978).

Availability of Weapons. An armed aggressor is obviously able to inflict greater injury on a wider range of potential victims. Cook (1982) has adduced evidence that demonstrates an interaction between the target of the aggression and the use of weapons. The more protected and invulnerable the target e.g., a bank in the case of a robbery, or a police officer in the case of homicide), the more likely that a firearm will be used. In extrinsic aggression, such as robbery, a weapon appears to lessen the likelihood of violence, since the victims are more likely to be intimidated and to cooperate rather than resist (MacDonald, 1975). Although fewer victims are injured in armed than in unarmed robberies, it is not surprising those that are attacked typically receive more serious injuries.

In the case of angry aggression, the possession of a lethal weapon by the aggressor makes it easier for him or her to inflict serious injuries on the victim, even when the victim is also armed. As noted, anger and rage are relatively short-lived emotional states. During a period of intense rage, when instigation outweighs inhibitions, the ready availability of a weapon makes it easier for a person to act violently before emotional equilibrium can be restored. Thus, weapons can facilitate violence. Clinicians concerned about a client's potential for acting on violent impulses should inquire about the accessibility of weapons and ammunition and ascertain the potential aggressor's familiarity with their use. As part of the treatment contract, the mental health professional should often insist that the potentially violent client dispose of lethal weapons.

Weapons in the hands of an antagonist or a potential victim should have an inhibitory effect on both angry and instrumental violence. Cook's (1982) analysis suggests that in such instances, the would-be aggressor might refrain from violence, might be diverted to more vulnerable target, or might obtain additional arms sufficient to equalize matters.

Clinical Implications

In evaluating the likelihood of aggression and violence and in planning interventions, it is essential that situational as well as personality factors be considered. This is especially true in violence-prevention programs.

Our ability to identify potentially violent people is limited not only by the complexity of the problem and the inaccuracy of our predictive measures, but also by the ubiquitous base-rate problem (Meehl & Rosen, 1955; Megargee, 1976; Monahan, 1981). Whenever we

attempt to predict a phenomenon as rare as violence, even a modest false positive rate multiplies the number of errors we will make. Moreover, even if we could forecast violent behavior more accurately, there are constraints on what can be done with people who are assessed as being dangerous, especially if they have not yet engaged in any illegal behavior (Megargee, 1976; Shah, 1977).

Some violence can be averted, however, by focusing on situational factors. Analyses of violent incidents in institutional settings may reveal that certain locales, such as isolated corridors, are often chosen for violent attacks; the installation of mirrors or closed-circuit TV cameras to improve the surveillance of such areas may help avert such incidents. Similarly, strong-arm robberies against social-security recipients might be decreased if all the checks were not mailed the same day, a procedure that makes it easy for muggers to stake out the mailboxes of elderly people when their checks are due. Evening escort services and improved lighting might reduce the incidence of sexual assaults on college campuses. Decreasing the ready availability of weapons, providing for a cooling-off period in the purchase of handguns, or forbidding the simultaneous sale of a gun and ammunition might help deter impulsive acts of violence.

In evaluating an individual's propensity for violence, Monahan and Klassen (1982) suggested that clinicians determine the situations in which a client has acted violently or aggressively in the past and ascertain how closely these situations match those that the client is likely to encounter in the future. One might go a step further and suggest that the environmental and situational factors that have been associated with non-violence should also be assessed and used to help guide recommendations for future treatment or environmental manipulation. More sophisticated evaluations of this type should help us advance beyond the imposition of misleading dichotomous labels such as "dangerous" versus "nondangerous" (Megargee, 1976) and move toward delineating the circumstances under which a given individual is most apt to respond with a certain degree or type of aggressive behavior toward a particular target, along with an estimate of how likely it is that such behavior will occur.

In treatment planning, only the crudest environmental or situational appraisals are usually made, such as whether a person requires hospitalization or can remain in the community. As further advances are made in the assessment of environments and their effects, it should be possible to make more precise recommendations,

including suggestions about the family, peer, and work environments that will be most beneficial to the client (Monahan & Klassen, 1982; Roth, 1987).

REACTION POTENTIAL AND RESPONSE COMPETITION

The relative strength of the instigation, habit-strength, and situational factors facilitating the expression of aggression on the one hand, and the inhibitions and situational factors impeding aggression on the other, determines the *reaction potential* of every possible aggressive response directed at every available target at any given time. In attempting to predict the likelihood that someone will engage in aggressive behavior, the clinician needs to estimate the strength of all these variables, remembering that reaction potential will differ as a function of the particular aggressive act under consideration, as well as the target at whom it might be directed. Because many of these factors change over time, reaction potentials, too, can be expected to vary.

In discussing suicide, Shneidman (1965) once pointed out that the internal forces favoring death are often in a delicate balance with those favoring life, and that many all-or-nothing decisions are "passed" by a bare majority. This applies to aggressive behavior as well. If the factors favoring an aggressive act exceed those opposing it by the slightest degree, then that act is possible. By the same token, the aggressive act might be prevented if the factors favoring aggression were slightly reduced—if certain frustrations, perhaps, were alleviated, or if a misunderstanding were resolved. Similarly, the aggressive act in question might be averted by a slight increase in inhibitions: a little less alcohol in the bloodstream, a closer bond with the potential victim, or a greater acceptance of individual responsibility for one's actions. In short, instead of thinking of a single strategy for coping with undesirable aggression or violence, the concept of reaction potential encourages us to consider a variety of strategies aimed at different aspects of the problem.

Turning to the concept of *response competition*, at any given moment a range of responses, both aggressive and nonaggressive, may be available. According to the conceptual framework presented in this chapter, the response that has the capacity to satisfy the most needs at the least cost will be selected, although again it must be emphasized that these are rarely consciously thought-out, rationally considered decisions. Often, these choices are made so rapidly and spontaneously

that the individual is unaware of the response competition that has been postulated. The concept of response competition also underscores the possibility of coping with aggression by strengthening competing incompatible responses (Brown & Elliott, 1965). Externally motivated aggression, especially, should be alleviated if nonviolent alternatives can be found.

Clinical Implications

The most obvious implication of the concept of reaction potential is that the clinician should consider and evaluate all the factors that determine its strength: instigation, habit strength, inhibitions, and situational factors. Obviously, it is impossible to calculate precisely the reaction potential of all the various aggressive and nonaggressive responses in an individual's repertoire. The heuristic value of the concepts of response competition and reaction potential is that they require us to consider the many various response alternatives, aggressive and nonaggressive, that are open to the individual. They necessitate that we abandon the archaic dichotomy of "dangerous" versus "non-dangerous" and ask ourselves what sorts of aggressive behavior are most likely to be directed at what targets under what circumstances.

Occasionally, a clinician may conclude that a client represents a distinct threat to a particular individual under the circumstances then operating. In such situations clinicians are usually under a legal as well as an ethical obligation to warn the potential victim, and perhaps even to notify law enforcement authorities. Recognizing that they may be influenced by their emotional relationship with the client or countertransference, clinicians are often well-advised to seek peer consultation or supervision when grappling with the difficult issue of disclosure. They should also document the factors influencing their decisions and record exactly what steps they took to deal with the situation.

With regard to treatment, again the most obvious implication is that all the various elements that interact in determining the reaction potential of an aggressive act need to be carefully considered in formulating a treatment strategy. Ways of averting and dissipating instigation, increasing or decreasing inhibitions, and altering situational and environmental factors all need to be considered. An important implication for treatment is that socially unacceptable aggressive behavior patterns can be diminished by strengthening appropriate alternative responses that can satisfy the same needs. This fact is most apparent in the case of extrin-

sically motivated aggressive or violent behavior. If the same needs for money, status, affiliation, and the like can be achieved nonviolently, then these alternative methods (which probably entail less risk) should be chosen.

In the case of angry instigation, acceptable aggressive outlets may be substituted for those that are socially unacceptable. A particularly constructive alternative would be a response that not only serves as an outlet for instigation but also helps correct the original situation that provoked the anger. Using the courts instead of the fists and organizing petition drives instead of mobs are examples of potentially effective alternatives. Community psychologists may be particularly helpful in devising constructive alternatives. Sometimes, recurrent patterns of aggressive behavior demonstrate the existence of a chronic community problem. Interracial fights in the schools or violent encounters between police and civilians may be symptomatic of more than mere hostility. Analyzing the causes of the resentment and working with the groups involved may serve not only as a constructive outlet for hostile feelings, but also as a way of promoting mutual understanding and devising ways of dealing with the basic problems. Mann and Iscoe (1971), for example, described how intervention and consultation by psychologists in one city transformed a potentially violent confrontation between police and students into a harmonious community celebration.

REPRISE: ON PSYCHOPATHOLOGY AND AGGRESSION

I noted at the outset of this chapter that aggressive behavior and even violence are normal human behaviors. In most cultures, children—especially male children—are raised to be aggressive and, under what the society considers the proper circumstances, violent. This has been true throughout recorded history. Nevertheless, just as psychopathology can affect many aspects of human behavior, so, too, can it influence aggression.

Psychopathology can influence instigation in a number of ways. Acute and chronic brain syndromes and endocrinological disorders can influence instigation directly. The impaired academic, vocational, and sexual functioning associated with many functional neurotic and psychotic disorders can be intensely frustrating, thereby arousing instigation to aggression. Paranoid disorders can cause an individual to become

hypersensitive to real or imagined dangers and attacks. Impaired interpersonal skills associated with a broad array of psychological difficulties can alienate friends and family members; not understanding the reasons for this antipathy, the recipient can, in turn, become angry and hostile.

Organic and functional disorders can also influence inhibitions. A number of factors (e.g., temporal lobe tumors, alcohol abuse, and the ego fragmentation associated with psychoses) have been cited as diminishing inhibitions, which, in some cases, can paradoxically result in violent behavior. Thus, even though violence is not necessarily symptomatic of mental disorder, those who would evaluate or treat aggressive behavior disorders should be alert for psychopathology, because such disorders may influence clients' instigation and inhibition levels and the environmental and situational stimuli that they are likely to encounter.

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APPENDIX 2

Chapter on Internal Inhibitions and Controls

INTERNAL INHIBITIONS AND CONTROLS

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INTERNAL INHIBITIONS AND CONTROLS

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I. Introduction

If you turn back to the Table of Contents and review the topics covered in this Handbook, you will see that most personality theorists are interested in what people do and why they do it. This chapter is different. We are going to be discussing what people do not do and why they do not do it. Our focus will be on the internal inhibitions, controls and restraints that cause people to refrain from behaviors that they consider to be wrong or inadvisable.

Most personality theorists concentrate on what I shall call the "positive" causes of behavior: the traits, habits, motives and attitudes that lead an artist to create, that drive a "Type A" person to be competitive, or that cause a neurotic individual to become anxious. However, as Robert Frost pointed out in the "The road not taken" (Untermeyer, 1955, p. 54), any decision to perform one act also involves the decision, conscious or unconscious, not to do something else. To understand how an automobile functions, we must study the steering and brakes as well as the engine and power train. To understand human behavior, we must examine controls and inhibitions as well as motives and drives.

As with the brakes and steering on our automobiles, we generally do not think much about inhibitions and controls until they fail. My interest in inhibitions was born of necessity : I have spent most of my professional career studying antisocial

behavior and violence. In contrast with most of my fellow contributors to this Handbook, the walls surrounding my research laboratories have often been topped with barbed wire rather than ivy, and featured gun towers instead of bell towers. Although I could go home at night, my subjects had to stay behind because society had decided that they required stringent external controls because they lacked adequate internal inhibitions and restraints. Naturally, in this setting I developed an interest in controls, and internal inhibitions are a major construct in my theoretical framework for the study of aggressive behavior.

In this chapter, internal inhibitions and controls will be discussed from a broad perspective, emphasizing concepts and theories from a range of disciplines. The views offered will be my own and should be regarded as hypotheses to stimulate thought and discussion rather than as "revealed truth". In the course of this discussion, we shall address the following topics:

- A. Problems in defining what we mean by internal controls or inhibitions, semantically and operationally;
- B. Philosophical issues and interdisciplinary perspectives.
- C. How inhibitions and controls are acquired or enhanced
- D. How inhibitions and controls are diminished, lost or overcome.
- E. Methodological problems in doing empirical research on controls
- F. Implications for research, theory and practice.

II. Definitional issues : What do we mean by internal controls?

One of our first problems is the fact that internal controls and inhibitions are difficult to define. This is because they are "negative" constructs that must be defined by exclusion. Moreover, since inhibitions are linked to values which vary from person to person, society to society, and period to period, the specific behaviors that are inhibited will also differ. Let us examine each of these problems.

A. Defining a negative construct. Most personality constructs are adduced to explain why people engage in certain behaviors. Terms such as "leadership", "anxiety" and "achievement" all connote constellations of attributes and observable behaviors. These can be used to construct operational definitions of these constructs or to identify people who exemplify these traits. However, "inhibitions", "taboos", "internal constraints", "superego" and all the other such terms in the thesaurus are used to explain why certain behaviors do not occur. It is obviously much easier to construct an operational definition of observable than it is of suppressed behaviors.

B. Variability of values. This problem is compounded by the fact that the specific behaviors that are inhibited vary as a function of each person's values. Since values differ from one individual, social subgroup or culture to the next, it is difficult to stipulate the behavioral omissions that suggest taboos are operating. At a fast food restaurant, you may observe a number of patrons choose the salad bar instead of a hamburger. Are they morally opposed to eating meat, or do they simply prefer vegetables? This leads us to the most difficult aspect of defin-

ing inhibitions, the need to rule out alternative explanations for failures to act.

C. Definition by exclusion. Before we can conclude that someone's failure to perform some act results from internal prohibitions, we must exclude all the other reasons why that person might refrain from that act. Here are a few alternatives that must be ruled out:

1. Lack of motivation. If an individual lacks the appropriate motivation, drive, incentive or desire to perform the act in question, then his or her failure to respond can not be attributed to inhibitions. This means researchers must establish that an appropriate drive state exists before they can conclude that a failure to perform some act results from inhibitions.

2. Inability to perform. It may be the response in question is not in the person's repertoire or that some external constraint prevents the person from engaging in the behavior in question. A recent film depicted a high school computer hacker who broke into his school's computer system and changed all his F's to A's. This film may have inspired thousands of students to emulate his behavior, but most were unable to do so because they lacked his technical expertise and/or his access to a computer.

3. Anticipation of a negative outcome. People will also refrain from behavior if it is not likely to be successful or if bad things are likely to happen to them as a result. Arthur Bremer stalked President Nixon but never shot at him because he was unable to penetrate the Secret Service screen (Institute of Medicine, 1984). His lack of internal inhibitions was amply

demonstrated when he shot Gov. George Wallace instead.

People will also refrain from behavior that is likely to result in unpleasant consequences. If several large and apparently vicious dogs raid my backyard barbecue and start eating the steaks, I will not attempt to retrieve my property from their slavering jaws. I can replace a Delmonico easier than my hand.

4. Response competition. At any given moment, there may be a number of different responses competing which are mutually incompatible. You are presently reading this book. You are probably not solving the New York Times crossword puzzle, making love to your sweetheart, or mowing the lawn. The fact that you are reading this book does not imply that you have any internal inhibitions against engaging in any of these other behaviors. It simply means that at this point in the history of the world, for whatever reason, you have chosen to read this book.

To recapitulate the problems associated with excluding other explanations, a person's failure to perform some act that we would have expected them to perform at that time and place implies internal constraints or inhibitions only if we can be sure that a) the appropriate motivational state was present, b) the person was capable of performing the response, c) the external situation did not indicate the response would fail or result in a negative outcome, and d) we can be reasonably sure that the person did not simply prefer to do something else.

D. Other problems. The difficulties listed thus far should surely give pause to those who would attempt to formulate a thoroughly satisfactory operational definition of internal inhi-

bitions. However, there are other problems as well.

So far, we have been discussing occasions when some expected behavior failed to occur. Can we at least infer that internal constraints were absent if the behavior did take place? No. There may have been internal inhibitions that were simply inadequate in the face of strong temptation. It is no accident that, unlike any other item on the menu, many restaurants put the high calorie desserts on a cart which is wheeled directly to the patron's table to maximize the temptation.

Another problem is that inhibitions and taboos can vary as a function of the time, the place, the object, and the specific act. It is all right for a football player to tackle an opposing player during a game Saturday but he should refrain from decking the President of the University at the prayer breakfast Sunday.

Internal constraints must also be differentiated from other similar constructs. One is repression. Might not our inhibitions be so strong that the forbidden drive is blocked from awareness? I may think the reason that I never purchased the controversial novel Satanic Verses in 1989 is because I had no (conscious) interest in reading that book. A psychoanalyst might argue that my apparent lack of interest actually stemmed from an unconscious need not to offend the late Ayatollah Khomeini, an obvious father figure, because I had not yet completely resolved my Oedipal conflict. Such unconscious conflicts will be beyond the scope of this chapter. Suffice to say that any repressions that influence behavior will simply make life that much more difficult for researchers and theorists.

III. Philosophical issues

As we have noted, internal controls and constraints are closely associated with values. As a result, people from a variety of disciplines have discussed them from a number of different perspectives. Indeed, many of the issues and concerns were raised centuries before the first psychologist drew breath.

Why such interest in this particular aspect of personality? Many people assume that internal controls and constraints necessarily involve ethical or moral prohibitions against performing acts that are disapproved of by society. Thus "internal constraints" are viewed as being synonymous with "conscience" or "morality", and the theoretical and empirical issues raised by psychologists are regarded as simply one more attempt to explore the age-old dilemma of good vs. evil.

Actually, these concepts are not congruent. As the trials of the Nazi war criminals at Nuremberg demonstrated, some people have well developed value systems that are at odds with the moral codes espoused by the larger society. Nevertheless, there is considerable overlap, and much of the thinking and research that has been done on such topics as moral development, social conformity, social deviance, psychopathy, cultural relativism and, yes, good vs. evil, are relevant to the issues we will be discussing.

Your theoretical perspective on the origin of internal controls is probably influenced by your basic view of human nature. Reduced to its essence, the basic philosophical question is whether people are fundamentally good or evil.

Those who maintain the people are basically good blame a corrupt society for human misery and evil. This is the allegory of the Garden of Eden before the snake intruded. One of the foremost proponents of this philosophy was Jean Jacques Rousseau (1712-1788), who wrote in Emile (1762), "Everything is good when it leaves the hands of the Creator; everything degenerates in the hands of man" (Beck, 1980, p. 264). This viewpoint underlies nondirective and humanistic approaches to psychotherapy that view the therapeutic task as removing acquired impediments to self-actualization and growth.

Diametrically opposed to this philosophy is the belief that people are basically evil and that left to their own devices they will exploit and prey upon one another. This is the Doctrine of Original Sin following the Fall. Thomas Hobbes (1588-1679) was one of the major advocates of this position. Whereas Rousseau, whose favorite book was Robinson Crusoe, extolled the virtues of people in a state of nature, Hobbes, in Leviathan (1651), described a state of nature as, "No arts; no letters; no society; and, which is worst of all, continual fear and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short" (Beck, 1980, p. 264). Latter day proponents of this view include Freud and his followers who maintained that a major goal of childrearing is to civilize and control the primitive id impulses and needs that are present from birth, i.e. to develop the ego.

A third view, developed somewhat more recently, holds that people have no innate good or bad tendencies, but instead are products of their environments. John Locke (1632-1704) used the

analogy of a blank slate or tabula rasa to convey the notion that experience determines our character. More recently behaviorists and social learning theorists such as B.F. Skinner and Albert Bandura have espoused this view.

Theorists who believe in the innate goodness of humankind have no need to account for the development of values or controls. Their basic position is that the human animal comes equipped with these attributes. Instead, their theoretical task is to account for evil and explain what went wrong.

The people who adopt the latter two positions, namely that people are born without innate controls, must explain how we acquire inhibitions. Obviously, one's academic discipline will influence one's theory. Religions often cite some form of redemption. Anthropology focuses on the transmission of culture, and sociology on the conflict of group values and loyalties. Psychiatry tends to seek signs of psychopathology, and psychology investigates individual personality characteristics. We shall examine some of these views, but we should remain aware of the fact that cutting across disciplines, these three basic philosophical perspectives influence the positions theorists adopt.

In the next section, we shall examine some of the hypotheses that have been advanced to explain how internal controls and inhibitions originate, and how they are overcome.

IV. Origins of internal inhibitions

As we noted in Section II, there are all sorts of reasons why people may refrain from behaving in certain ways. Appropriate or adequate motivation may be lacking, the response may be out-

side their repertoire or beyond their capabilities, or external sanctions may be imposed. These factors, as important as they are in predicting behavior, are outside the purview of this section.

In this section we will focus on internal inhibitions and controls that deter us from behaviors that we would otherwise perform. As we shall see, these taboos are variable. Some inhibitions are general, some are quite specific. Some are lasting, some are temporary. The common denominator is that we are referring to internal impediments rather than external constraints.

A. Physiological mechanisms. Given the fact that we are biological organisms, it is obvious that all our behavior has a physiological basis. What we do, say, or think depends on our neurons, hormones, organs and tissue.

Nevertheless, partly because of the difficulties involved in doing physiological research on humans and partly because of an American bias in favor of environmental explanations, most theorists traditionally paid only lip service to the physiological bases for personality functioning.

This situation is changing. With the recent technological advances in our ability to study the basic genetic material and to conduct nonintrusive investigations of the central nervous system, we have come to recognize the role of physiological and hereditary factors in major mental disorders previously thought to have a purely functional basis. Concomitant with these clinical advances is a greater appreciation of the importance of physiological factors in normal personality functioning as well.

In a broad sense, there are many physical reasons why a person may refrain from doing something. Diabetes and circulatory

problems can cause male sexual impotence, a broken leg will interfere with ski-jumping, and acute nausea will sap one's motivation to do just about anything except retch and hope for an early demise. Ultimately, we all stop behaving because we die. However, these physical inhibitions are not what we mean by "internal controls", even though they may be very important in predicting behavior.

Physiological research on internal inhibitory mechanisms is still relatively primitive. We have already noted the difficulty of defining internal controls operationally. This problem is compounded by the limited range of physiological experiments we can ethically perform with humans. Even though animal studies permit greater precision, many will question their relevance. In this section we shall touch on possible hereditary influences and the central nervous system substrate for internal controls.

1. Genetic mechanisms. Unfortunately, homo sapiens is a notoriously difficult species for behavioral geneticists to investigate given our propensity for assortative mating, our low reproduction rate, our long maturation period, and our hopelessly heterogeneous gene pools. Consequently relatively little is known about the genetic bases of personality functioning in general and restraints in particular. In this section, most of our speculations are based on inferences from other areas of research.

a. Research on criminals. The first empirical research relevant to possible genetic determinants of internal controls and inhibitions was performed by scientists whose primary interest was in people who apparently lacked adequate con-

trols, namely convicted criminals. In the 19th century, Cesare Lombroso (1835-1909) hypothesized that criminals' savage behavior suggests that they are "atavistic reversals" or throwbacks to a more primitive stage of human evolution. Such atavism, Lombroso maintained, would be manifested by physical signs or "stigmata", such as low sloping foreheads. In the 20th century extensive studies were carried out by Goring (1913) and Hooten (1939) to test Lombroso's hypothesis, but sampling and methodological flaws rendered their results inconclusive (Rosenquist & Megargee, 1969).

Somewhat more convincing are studies showing a higher rate of concordance for criminality among monozygotic than dizygotic twins (Christiansen, 1977), and higher rates of criminality among adoptive children whose biological parents were criminals than among those whose biological parents were noncriminals, irrespective of the criminality of the adoptive parents (Mednick, 1984; Mednick & Volavka, 1980). However, any research using convicted criminals is only tangentially related to the question of the heritability of internal controls.

b. Heritability of personality factors. Using factor analysis, some personality researchers have suggested that five or six fundamental dimensions underlie our perceptions and descriptions of one another (Hogan, 1986). One of these dimensions, "conscientiousness", bears a passing resemblance to our concept of internal controls. According to Hogan, "...Conscientiousness contrasts people who are dependable and conforming with those who are undependable and nonconforming" (1986, p. 58).

Using personality test scores as operational definitions of

these dimensions, researchers such as Bouchard (1984) and Loehlin and Nichols (1976) have compared the scores of monozygotic and dizygotic twins to estimate the heritability of these traits and concluded that about half the variance can be attributed to genetic factors.

c. The evolutionary perspective. Some scientists have suggested that inner controls are innate because they have selective value for the survival of the species. In his paper on "Moral conduct and character", Robert Hogan, "...assumes that morality is a natural phenomenon, an adaptive response to evolutionary pressure, and that an understanding of moral behavior is relative to our knowledge of man's biological and social nature" (1973, p. 218).

This evolutionary perspective has not only been used to explain general ethical tendencies, but also to account for specific taboos such as those against incest or homicide. Noting the near-universality of the incest taboo, Gardner Lindzey (1967), in his presidential address to the American Psychological Association, theorized that it must be genetically based.

Lindzey noted that the literature on interpersonal attractiveness showed that people, like most creatures, are most attracted to one another on the basis of similarity, familiarity, and proximity. Without an incest taboo, these tendencies would ordinarily lead to a high level of inbreeding, for it is the members of one's immediate family who best fit these specifications. Since inbreeding would be deleterious for the species, Lindzey (1967, p. 1056) argued that, "...the biological necessi-

ty of outbreeding led to the evolution of a set of prohibitions against this powerful tendency...".

The noted ethologist Konrad Lorenz (1966) maintained that inhibitions against aggressive behavior also have a genetic basis. In the normal course of evolution, animals that had the physical capacity to kill other members of their own species evolved inhibitions against the use of their deadly weapons when combating one another. Rattlesnakes, for example, fight by wrestling one another and never use their fangs because the venom would be lethal.

Because our ancestors were less ferocious, such inhibitions had little selective value, so modern humans did not inherit strong inhibitions against homicide. However, once we invented weapons and passed this knowledge down from generation to generation, we rapidly became a lethal species as the quick growth of technology outstripped the slow course of evolution. This imbalance, according to Lorenz, accounts for our high homicide rates.

d. Selective breeding. Another line of evidence comes from selective breeding of animals. Although animal husbandrymen have been more interested in breeding aggressive strains of fighting bulls, cocks, dogs, and fish, it is well documented that animals can also be bred for docility and tractability.

The monks at the Hospice of St. Bernard recognized that the large dogs they were breeding to assist travelers lost in the snowy mountain passes would be of little help if they had the feisty temperament of a terrier or the aggressiveness of a pit bull. Hence they deliberately selected the gentlest animals as

well as those with the most stamina, endurance and intelligence (Megargee, 1942; 1954). Of course, it is questionable whether a dog's high threshold for aggressive behavior is equivalent to a person's internal controls, or whether being gentle and docile is conceptually equivalent to being controlled or inhibited.

e. Evidence on genetic mechanisms. Thus it can be seen that there is no definitive evidence for the inheritance of generalized sets of values or specific inhibitions such as the incest taboo. Given the ethical constraints governing genetic research with humans, as well as the technical difficulties, it is unlikely that any definitive studies will be forthcoming in the foreseeable future. Nevertheless, despite the bias toward environmental explanations of internal controls, there is enough suggestive evidence to allow us to entertain genetic hypotheses.

2. Central nervous system. The best evidence for a neurological substrate for internal inhibitions stems from clinical studies showing that various types of CNS impairment can lead to impulsivity and diminished ethical constraints. Beyond this broad observation, our knowledge of specific inhibitory mechanisms in the human brain is rather vague.

Specific centers have been identified that act to inhibit very basic forms of behavior such as eating and drinking. Photographs of immense rats that have gorged themselves into obesity after removal of the hypothalamic centers that signal satiety are a standard feature of introductory psychology texts, and scientists have "turned off" aggressive behavior in some animals by electrically stimulating areas of the brain believed to inhibit

aggression (Johnson, 1972; Mark & Ervin, 1970). These central nervous system mechanisms are of primary importance to clinicians attempting to diagnose the possible causes of impulsive or poorly controlled behavior.

When we turn to a consideration of the neurological basis of higher ethical principles, much less is understood. It seems definite that the cortex is involved, and research on the development of moral and ethical sensitivity makes it clear that a certain level of cortical development is required for children to make "mature" ethical choices. Again, this is most relevant for examining those cases in which there has been a breakdown in ethical behavior. As we shall see, toxic substances or diseases that interfere with the cortex can have the effect of diminishing one's internal inhibitions.

3. Other physiological factors. Although their exogenous origin makes them outside the purview of "internal inhibitions" in the usual sense, it should be noted that drugs can be used to reduce undesirable behavior patterns. Some act to reduce drive strength, as in the appetite suppressants used by dieters or the so-called "chemical castration" sometimes advocated for sex offenders. Others strengthen a person's ability to inhibit undesirable behavior, that is behavior that is contrary to the individual's own code of values. A recurrent problem in clinical settings are patients who are able to control their behavior while on medication in an inpatient setting but who discontinue their medication and act out after discharge.

B. Psychological sources of inhibitions. According to Rousseau (1758), "The first of all laws is to respect the law" , but

whence cometh this respect for law and order? Developmental psychologists such as Jean Piaget (1932), Lawrence Kohlberg (1980), and Robert Selman (1980) have charted distinct patterns and stages in children's comprehension and understanding of moral issues. Do these stages in moral development stem from maturation or from the growth of the child's cognitive abilities from a concrete, simplistic understanding to a more abstract and complex appreciation of the world?

Those who, like Rousseau, believe in the innate goodness of humankind do not have to explain how most children become socialized to their particular culture's values. For them, the unfolding of nature's plan is a sufficient explanation. Their task is to explain how society interferes with this normal process.

However, those who agree with Locke that we are born essentially unformed and are shaped by experience, or who subscribe to Hobbes' view that we are inherently selfish and amoral, must explain how it is that most of us are more or less civilized by the time we reach adulthood. To account for this process, theorists must answer two basic questions: 1) How do we learn the rules of our particular society? 2) Why is it that we obey them? We shall discuss these questions from the viewpoints of behaviorism, cognitive social learning theory, and psychoanalysis.

1. Socialization : Learning the rules of the culture.

Somehow in the course of development, everyone acquires a sense of values, a moral code that specifies what we should and should not do. Broadly speaking, they learn that behavior can be divided into "latitudes of acceptance" and "latitudes of rejection"

(Megargee, 1973).

The behaviors included in these latitudes vary from one society to the next. Most Americans repudiate the practice of killing people who have different religious beliefs, but have no compunctions about the custom of butchering cattle for food. In India, however, Hindus who would be aghast at the thought of killing a cow slaughtered thousands of Muslims in the early 1950s (Luckenbill & Sanders, 1977).

In any given society, the latitudes of acceptance and rejection can change over time. In America, for example, homosexual relationships between consenting adults have become more accepted, while dueling, which was once de riguer in certain situations, is now rejected.

Not only do developing children learn the broad latitudes of accepted and rejected behavior in their cultures and subcultures, but with increasing years and sophistication they come to understand the subtleties within these latitudes. In the latitude of acceptance, certain behaviors are prescribed, but others are actually preferred, while in the latitudes of rejection, some behaviors are proscribed but others are permitted (Megargee, 1973). These distinctions, too, vary from place to place and change over time. In recent years, political dissent has shifted from being proscribed to permitted in the USSR while the opposite trend has taken place in China.

At the outset, children's behavior is guided and controlled by their caretakers, but in time, whether it is the Code of Hammurabi, the Ten Commandments, or the Analects of Confucius, children learn what is regarded as right and wrong in their

culture. How does this come about?

a. Conditioning via punishment. With regard to learning the basic "do's and don'ts" of the culture, there is broad general agreement that a system of rewards for approved behavior and punishments for "bad" behavior are necessary. Theorists disagree regarding whether these contingencies alone are a sufficient explanation.

Reinforcement or "rewards" are used to promote and encourage appropriate behavior and to foster positive role models. Punishments, on the other hand, are used to discourage disapproved behavior. Since we are focusing on inhibitions and restraints, we will concentrate on punishment.

It is, quite literally, a proverbial belief that punishment induces internal inhibitions : according to the Book of Proverbs (13:24), "He that spareth his rod hateth his son; but he that loveth him chasteneth him betimes" , while a Chinese proverb states, "Beat your child once a day. If you don't know why, he does" (Tripp, 1970, p. 759).

Many, perhaps most, psychologists agree that punishment can foster internal inhibitions. Discussing how we develop inhibitions against aggression, for example, Dollard, Doob, Miller, Mowrer and Sears (1939, p. 33) wrote, "The basic variable that determines the degree to which any specific act of aggression will be inhibited appears to be anticipation of punishment....the principle derives from the law of effect; those acts cease to occur which, in the past, have been followed by punishment." To this they added that injury to a love object also constitutes

punishment and that anticipation of failure is equivalent to anticipation of punishment (1939, p. 34).

There is considerable popular support for these "common sense" notions. Since the days of Jeremy Bentham (1748 - 1832), modern penology has been based on the theory that properly administered punishment deters crime; "specific deterrence" means that once we have been punished we are less likely to repeat our transgressions, while "general deterrence" refers to inhibitions fostered in others who may observe our penalty.

There is no doubt that the immediate prospect of punishment can suppress behavior; witness how many cars reduce speed at the sight of a flashing blue light. But the rapidity with which they resume speeding once they are out of sight of the police suggests that no lasting inhibitions, as we have defined them, were fostered.

Numerous studies attest to the fact that for punishment to be an effective deterrent it must be swift, sure, and sufficiently strong to outweigh the pleasures derived from the sanctioned act (Wilson & Herrnstein, 1985). In totalitarian countries, a mere accusation may result in immediate execution, a policy which one would suppose would be very effective in suppressing unwanted behavior. However, we should recall that in World War II, the French mounted an extremely effective underground resistance against the German Occupation forces despite the fact that the Gestapo and SS killed tens of thousands of French civilians in reprisal.

In the United States, many advocate increasing the severity of punishment to reduce crime. As long as less than 2% of the

crimes committed result in imprisonment, and sentences are typically imposed months or years after the offense, simply increasing sentences will have little impact.

But what of the developing child? How well does the conditioned anticipation of punishment account for socialization? Behaviorists, particularly the so-called "radical behaviorists", concentrate on finding fundamental laws governing the relationship between observable events such as stimuli and responses, laws that apply to all organisms and which should not depend on intervening variables or hypothetical constructs such as "traits" or "cognitions" (Skinner, 1971). Since punishment accounts for avoidance behavior in rats, pigeons as well as people, it is tempting to use it, coupled with rewards for appropriate behavior, as a sufficient explanation for human ethical judgment.

How adequate is this explanation? Let us return to Dollard et al.'s (1939) example of aggressive behavior. Over the years, I have developed and refined a theoretical framework for the analysis of aggressive behavior in which I balance the factors favoring an aggressive response against those that oppose it (Megargee, 1982; 1984). If the factors opposing it are stronger, then that response is blocked, but if the motivating factors are stronger, then that response is possible.

The motivating factors include anger ("intrinsic instigation") and the fact that aggression may be a means to some end ("extrinsic instigation"). (As Al Capone once noted, "You can get much farther with a kind word and a gun than you can with a kind word alone" [Peter, 1977, p. 141].) In addition, I include habit

strength, which comes from having been rewarded for aggressive behavior in the past. Balanced against the elements which increase the likelihood of an aggressive response are those that inhibit aggression, both internal (conscience) and external (the presence of parent or a policeman).

Dollard et al. (1939) argued that punishment for aggressive behavior creates anxiety about performing forbidden acts that foster internal inhibitions. As we have noted, as long as punishment is swift and certain it can be effective, but few parents are all-knowing or ever-present. Sometimes the child's misbehavior may be punished, but other times not. In the absence of punishment, aggression will be rewarded, so gradually its habit strength increases. Moreover, since it was learned via partial reinforcement, the aggressive behavior will be very resistant to extinction. The most likely outcome is a discrimination will be learned rather than a moral absolute, i.e. only hit your sibling when your mother is not looking. From this standpoint, it seems unlikely that externally imposed rewards and punishments are sufficient to account for our elaborate rules regulating the expression of aggression, much less our overall moral codes.

b. Social learning. Unlike radical behaviorists, social learning theorists are willing to treat people as being different from other animals (Feshbach & Weiner, 1986). While not denying the importance of direct rewards and punishments, Bandura (1969, p. 118) argued, "...virtually all learning phenomena resulting from direct experience can occur on a vicarious basis through observation of other persons' behaviors and its consequences to them." In kindergarten, if the first child to throw a

spitball was severely disciplined, the rest of his classmates quickly learned to inhibit this behavior...at least when the teacher was looking.

Even modeling and observational learning do not account for the broad range of rules and prohibitions that we acquire. Cognitive social learning theory goes beyond personal experience and observation and emphasizes the importance of stating the rules and stipulating the behaviors that will be rewarded or punished (Feshbach & Weiner, 1986). Moreover, cognitive social learning theorists stipulate that the child is not dependent on externally imposed rewards and punishments. Once they have incorporated values, they can and do reward themselves when they behave appropriately (Bandura, 1977) or feel badly when they do wrong or fail to live up to expectations (Feshbach & Weiner, 1967, p. 149f). This leads us to our next question, "Why is it that people adopt these value systems and try to live by them?"

2. Acquiring controls and introjecting values. Given the fact that it is impossible to have an external reinforcer watching our every move, it is essential that we develop internal systems of control. But why is it that people come to reward themselves for doing well ("self-efficacy" in Bandura's [1977] terminology), or punish themselves for doing wrong ("guilt" in the jargon of both clergymen and psychologists).

This question that has intrigued theologians and philosophers for centuries. Some religions maintain that some form of direct intervention by the deity is responsible for people developing consciences. Philosophers such as Thomas Hobbes, David

Hume, John Locke and Jean Rousseau developed the theory of the "social contract" in which people agreed to trade the individual freedoms they enjoyed under anarchy for the security of an organized and lawful society.

Psychologists tend to ascribe the development of values and morality to events that take place within the family in early childhood which make children want to please their parents. However, their specific explanations differ.

a. Behaviorist explanations. Behaviorists in the Watsonian tradition attributed children's identification with their parents to classical conditioning. While the infant is suckling, the mother's presence becomes associated with the reduction of hunger and with all sorts of pleasurable sensations. Through conditioning, she becomes a "secondary reinforcer" whose presence and approval are sought in their own right. To gain this reinforcement, the child learns to please her and live up to her expectations, and, presumably to a lesser extent, those of the father. Even when the children have grown to adulthood and become parents themselves, they may still evaluate their behavior according to whether it measures up to their mothers' values.

b. Social learning theory. Social learning theorists go beyond simple operant conditioning to explain the acquisition of complex behavior patterns (Bandura, 1977; Mischel & Mischel, 1976). They make a distinction between the acquisition and the performance of behavior.

Many habits are first acquired by imitating models. Modeling requires a relationship between the child and the figure being imitated, although that relationship may exist only in the mind

of the imitator. Teachers, peers, television characters, athletes and literary or religious figures may serve as examples, but in early childhood, the parents are usually the primary models. Through imitation, very complex patterns of behavior can be rapidly acquired, and no direct reinforcement is regarded as necessary (Feshbach & Weiner, 1986, p. 147). This contrasts with the slow shaping of behavior through direct rewards and punishments that behavior theory says is required.

As we have noted, social learning is facilitated by verbal processes, explicit rules and explanations of contingencies. Once a behavior pattern is acquired and the child performs it, it must be reinforced if it is to be maintained. The agents of acculturation, who may or may not be the original models, must reward the behavior pattern, or the child must find it intrinsically satisfying and enjoyable (Feshbach & Weiner, 1986).

The social learning explanation is better at explaining how we learn "positive" behaviors than it is at accounting for inhibitions and restraints. It is easier to imitate something that is done than something that is not. Still, there are forceful models for inhibitions and controls; Martin Luther King became an international hero and exemplar for thousands by advocating and exemplifying self control and nonviolence in the face of the most extreme provocation.

c. Psychoanalytic theory. Psychoanalytic theory preceded social learning theory by a half century, so Freud and his followers did not have the advantage of drawing on as rich a base of empirical research. Indeed, most of their observations

were made on men and women who had been raised in Europe during the sexually repressed Victorian period and who were seeking treatment for serious neuroses. Many manifested serious sexual conflicts dating back to early childhood. Today, it seems likely that many had been abused.

As clinicians treating patients, Freud and other psychoanalysts felt no need to confine their theories to externally observable behavior. Instead their primary focus was on intrapsychic events as inferred from the verbal reports of their patients during treatment. From this rather skewed sample, Freud formulated a comprehensive theory of personality that has shown amazing vitality over the decades.

More than other approaches, psychoanalytic theory recognizes that stressful approach/avoidance conflicts are necessarily involved in moral and ethical decisions, clashes between what we want to do and what we should do, or, in analytic jargon, between the demands of the id, which is concerned only with hedonism and operates according to the pleasure principle, and " the strict super-ego, which lays down definite standards for ...conduct and, which, if those standards are not obeyed, punishes it with tense feelings of inferiority and of guilt " (Freud, 1965, p. 78).

According to Freud's formulation of the structure of personality, an aspect not typically included in other approaches, this rivalry is mediated by the ego, which operates according to the reality principle. As Freud wrote, "The poor ego ... serves three severe masters and does what it can to bring their claims and demands into harmony with one another. These claims are always divergent and often seem incompatible. No wonder the ego

fails so often in its task. Its three tyrannical masters are the external world, the super-ego, and the id" (1965, p.77).

At age three or four, during the "phallic stage" of development, when children are focused on their genitals as a source of excitement and stimulation, they develop a yearning for an exclusive relationship with their same-sex parent and are consumed with jealousy of the same sex parent who demands so much of the other parent's time and attention. These feelings are frightening in their intensity and in their implications.

During the "Oedipal conflict", a boy fears his presumably omnipotent father will discover the son's incestuous yearning for his mother and castrate him to take revenge and prevent their union. This fear is no doubt exacerbated by the sight of little girls, whose external organs indicate that something of this nature must have taken place (Munroe, 1955). Repressing his desire for the mother, the boy identifies with his father, vicariously obtaining satisfaction by striving to be like him in every possible way. This includes introjecting his values, thereby creating the super-ego (Munroe, 1955).

Girls undergoing the "Electra complex" likewise repress their desire for the father and come to identify with the mother. This explains why boys and girls develop gender-specific values. Since girls had nothing to fear from castration, Freud asserted that identification and super-ego formation are never quite complete in women, a notion which Helen Bee (1985, p. 326) castigates as, "...totally unsupported by later research...".

This introjection of values does not take place in a vacuum.

As Freud wrote, in a passage that could easily have been written by a contemporary a social learning theorist, "The child is brought up to a knowledge of his social duties by a system of loving rewards and punishments, he is taught that his security in life depends on his parents (and afterwards other people) loving him and on their being able to believe that he loves them" (1965, p. 164).

Quite apart from his hypotheses regarding the structure of personality, Freud is one of the few personality theorists who specifically acknowledged the important role religion can play in human behavior in general and in fostering and maintaining internal inhibitions in particular. Although he himself maintained that "religion is an illusion" (Beck, 1980, p. 679), Freud noted that people transfer their familial relations and values, "...unaltered into their religion. Their parents' prohibitions and demands persists within them as a moral conscience. With the help of this same system of rewards and punishments, God rules the world of men" (1965, p. 164).

Unlike Freud, contemporary American psychology virtually ignores the influence of religion on behavior. Surveying the indices of the 19 current introductory psychology texts that happen to be on my shelves, I found only two had any entry for "religion"; one mentioned religion as a coping response on one page and the other discussed religious conversions. Not one mentioned religion as a factor influencing values or ethical decision-making. Nevertheless, for many people religious beliefs and practices play an important role in fostering ethical behavior, and a religious conversion or loss of faith can greatly

alter a person's values.

3. Some factors influencing the development of inhibitions. Although theorists disagree on how we become socialized and learn to control our behavior, there is general agreement in psychology and other disciplines on the environmental conditions that are most apt to foster a stable sense of values and the ability to regulate one's behavior in accordance with those values.

A warm nurturing environment in which the children form a close bond of affection and respect with their caregivers combined with fair, consistent discipline is most conducive to developing internal controls. The more the agents of socialization, first the parents, and later the neighborhood, the church, and the school, share and enforce a strong common set of values, and the more they live up to and consistently exemplify these principles in their everyday lives, the more likely it is that the children will incorporate them (Hogan, 1973; Hogan, Johnson, & Emler, 1978; McCord & McCord, 1959; Wilson & Herrnstein, 1985).

On the other hand, as we shall see, parental absence and disharmony, inconsistency, rejection, abuse and poor role models are associated with problems in developing values and controlling behavior (Glueck & Glueck, 1950; McCord & McCord, 1959; Megargee, Parker & Levine, 1971; Miller, 1958; Nye, 1958; Rosenquist & Megargee, 1969; Wilson & Herrnstein, 1985).

4. Other sources of inhibitions. In this section we have been concentrating on how we develop the sorts of internal inhibitions that fit our definition. To gain proper perspective,

it should be noted that some of the factors that were excluded from this strict definition nevertheless serve an inhibitory function.

One is the prospect of bad things happening as a result of some action. A person who has no moral scruples against some illegal act such as insider trading might be deterred by the prospect of a prison term (Wilson & Herrnstein, 1985). Similarly, as Dollard et al. (1939) noted, the person may decide not to act if it seemed likely that the scheme would fail in its objective or that the act might bring pain or disgrace to loved ones.

These latter considerations involve calculating the risk or the odds that something bad will happen. As we have noted, the certainty of punishment has long been a major factor in deterrence theory. Recently Don and Steve Gottfredson have been developing the parallel notion of "stakes", arguing the amount one has to lose in terms of reputation, property and other considerations should also be included in the equation.

Recapping the psychological explanations for the development of internal controls and inhibitions, it is evident that there are many theories and much relevant information, but few definitive data. It is possible to describe the conditions favorable to and the stages of moral development, but the specific mechanisms are largely a matter for conjecture. Interestingly enough, many hypotheses about the "psychological" factors that foster the development of values were based on observations of people who were conspicuous for their lack of controls or restraint. We will turn now to a discussion of factors that inhibit the development of values and inhibitions and which may be used to diminish or

overcome those ethical principles that have been acquired.

V. Overcoming inhibitions

Sometimes preschool children take time off from the important developmental tasks of learning values and resolving their Oedipal conflicts to build towers with wooden blocks or to construct castles of sand. Doing so they may learn another of life's lessons...it is much easier to tear down a structure than it is to build it. So, too, with ethical codes.

Human nature is such that we are much more interested in moral lapses than moral triumphs. Examine the offerings in your television viewing guide or the titles in the VCR rental store. How many deal with the lives of saints and how many with sinners? Before you blame the low taste of the "mass audience", conduct a similar survey on your book shelf and see what you selected.

If the titles dealing with human failings prevail, do not be distressed. It has always been thus. While you are surveying your bookshelf, take down the Old Testament and turn to the second and third chapters of Genesis. You will find that only three verses are used to describe Adam and Eve's life together in the Garden of Eden, but 24 verses are devoted to their temptation and fall from grace.

Social scientists are no exception; we are more likely to deal with the Cain's of this world than the Abel's. Anthropologists are especially interested in those members of the tribe that somehow fail to share its cultural values, sociologists have an entire subarea devoted to the study of "social deviance", and criminology is a discipline unto itself. The number of psycholo-

gist who deal with abnormal or deviant behavior vastly exceeds the number who focus on healthy functioning.

As we noted above, many of our theories about the origins of inhibitions stemmed from studies of people whose behavior is characterized by a lack of restraints. In general, the factors that are associated with a failure to develop adequate controls are the obverse of those conducive to positive socialization. Unfortunately it appears there are many more ways to diminish or overcome inhibitions than there are to foster them .

A. Physiological mechanisms. As we noted earlier, all behavior is physiologically mediated. Thus whether we regard internal prohibitions and controls as resulting from the unfolding of an innate genetic pattern or as resulting from conditioning or learning, physiological factors must have an impact.

1. Genetic mechanisms. In the previous section, we noted that personality researchers have obtained data that are consistent with the hypothesis that individual differences in controls and restraints are at least partially determined by heredity. Authorities differ regarding the mechanisms. Eysenck (1964; 1981) maintained that these genetic differences are mediated through actual differences in brain physiology, whereas Buss and Plomin (1984) suggested what is inherited are temperamental differences that predispose people toward being more or less restrained (Hogan, 1986).

If Eysenck's view is correct, then we might infer that factors which influence the central nervous system, as described below, might overcome the innate pattern. On the other hand, if

it is predispositions that are innate, then experiential factors become more important in determining whether or not these predispositions are realized.

2. Central nervous system. Internal controls as we have defined them depend on the proper functioning of the brain. In order to make an ethical decision, I must first examine a proposed course of action and decide whether to classify it as "right" or "wrong" according to my unique set of values; if it is "wrong", then I must decide whether or not I will succumb to the temptation anyway. Recall the existential crisis of the dieter confronted by the chocolate mousse.

Except for specific inhibitory centers in the hypothalamus that govern consummatory behavior and, possibly, certain types of aggressive behavior, moral constraints and inhibitions seem to be cortical functions. It is of course, the cerebral cortex that is the most recently evolved area of the human brain and the area associated with what we regard as "higher" functioning.

As we shall soon see, all sorts of things can go wrong with the central nervous system in general and the cortex in particular. The specific effects vary with the nature and the location of the damage, but a safe rule of thumb is that while brain damage may impair internal inhibitions, it virtually never augments them. Indeed, impulsive behavior and diminished ethical sensitivity are often among the first behavioral symptoms of cortical malfunctioning.

a. Traumas, tumors and vascular disorders. Although it is encased in the skull, the brain is subject to injury

from exogenous causes such as blows to the head or gunshot wounds. From within, cerebral vascular infarctions, aneurysms, arteriovenous malformations and tumors can all create lesions.

Diffuse generalized cortical damage can be associated with a general lessening of ethical sensitivity, increased irritability, impulsive behavior and impaired judgment. The effects of more focal lesions, such as those caused by tumors, wounds, and strokes, depend on the area that is damaged. Temporal lobe tumors and hypothalamic lesions are sometimes associated with aggressive acting out.

b. Disease and infection. A number of diseases can diminish cortical functioning. These include disorders which apparently have a genetic basis, such as Alzheimer's disease, Pick's disease and the senile psychoses, as well as infectious diseases such as encephalitis and syphilis. Memory loss is the primary characteristics of the former group, but with both the innate and the infectious disorders, cortical impairment can be accompanied by a loss of ethical sensitivity and moral constraints. This may stem in part from cognitive impairment, since knowing the difference between right and wrong is a cognitive function. But it also seems clear that there is a reduced capacity to control one's behavior.

c. Chemical substances. Earlier, we noted that certain psychotropic medications may be prescribed to assist neuropsychiatric patients in controlling their behavior. Such substances can be remarkably effective; without them the widespread deinstitutionalization of the mentally ill would not have been possible. However, when these medications are withdrawn, the

ability of these patients to control their behavior may decrease.

Other drugs, most notably alcohol, act to diminish inhibitions. Indeed, this is one reason they are so widely used. As Ogden Nash wrote, "Candy is dandy, but liquor is quicker."

3. Endocrinological system. The hormones secreted by the endocrinological system can have powerful effects on behavior. When the sympathetic portion of the autonomic nervous system is aroused, adrenalin is released and the body is prepared for action. The effect is similar to bringing a military unit to a full state of combat readiness, with weapons loaded and locked, safeties off, senses alert for the first sign of enemy action. Given such a state of activation, people are prepared to respond instantaneously, and the influence of internal inhibitions is minimized.

Hormones secreted by the gonads play an important role in stimulating sexual desire or libido, especially in males. The Middle Eastern potentates who had eunuchs guard their harems may not have been endocrinologists, but they understood the effects of castration. Younger readers are probably well aware of how sexual arousal can overcome moral prohibitions; older readers can probably remember.

Testosterone also stimulates aggressive behavior and dominance in a variety of species. Along with thyroxine and progesterone, excessive testosterone can cause irritability. The autonomic nervous system and the endocrinological system are complexly intertwined with environmental and personality factors; the point to remember is that these factors are among those that can

mitigate internal inhibitions against various forms of behavior.

4. Other physiological factors. A number of other physiological factors have been associated with diminished inhibitions. Some have speculated that psychopathy, which is characterized by a severely underdeveloped set of inhibitions, may have a physiological basis. Eysenck (1964) speculated that psychopaths have an innate deficit in their ability to be conditioned or to learn from their mistakes so that punishment is relatively ineffective. The McCords (1964) speculated that brain damage, possibly to the hypothalamus, in combination with parental rejection might be responsible. Quay (1965, p. 181) suggested that perhaps, "...basal reactivity to stimulation is lowered so that more sensory input is needed to produce efficient and subjectively pleasurable cortical functioning." Because of this presumably innate deficit, the psychopath is driven to seeking additional sensory stimulation.

We should also note that physical illness can reduce external inhibitions. A person who has a terminal illness may feel that he or she has "nothing to lose" and engage in behavior that they would not otherwise have allowed themselves. This does not necessarily mean that they will do something antisocial or reprehensible. For example, one hardworking individual who had never allowed himself to take a vacation put work aside and went on a cruise when he learned he was suffering from an untreatable life-threatening illness.

B. Psychological factors. Turning from the many physical factors than can diminish inhibitions, we will find there is an

even more varied array of "psychological" mechanisms. Before anthropologists, sociologists, psychiatrists or theologians take umbrage, let me hasten to stipulate that the term "psychological" is being used in its broadest sense to mean "nonphysiological". As we shall see, theorists from a variety of disciplines have contributed a heterogeneous array of explanations.

Surveying these notions, it appears that by and large theorists have been addressing two distinct issues. The first is why some people in every society appear to have values that differ from that society's norms. The second is more concerned with determining why so many of us do not live up to our respective codes of values. We shall discuss each issue in turn.

1. Problems in value development. Almost everybody who has a reasonably adequate central nervous system develops some code of values. Whether or not this code is adequate is, in the truest sense of the word, a value judgment. Nevertheless, in virtually every society throughout history there have been some individuals whose values were deemed inadequate by their fellow citizens. How can this come about?

a. Deficient values. In general, the factors associated with defective value development are the obverse of those conducive to good socialization. The most serious deficiencies are likely to be observed in children reared in situations which prevented basic bonding, the resolution of the first developmental crisis described by Erik Erikson (1950) as "trust vs. mistrust". This might occur, for example, in children growing up under conditions of extreme deprivation such as the famine-ravaged areas of the Sahara or the war-torn sections of Lebanon.

Children raised in totally impersonal institutions or in homes characterized by severe rejection and abuse might also be included, but probably to a somewhat lesser extent.

Studying the development of juvenile delinquency some years ago, Sheldon and Eleanor Glueck (1950) noted that a lack of cohesiveness and nurturance in the parental home was associated with delinquency, a finding that has oft been repeated in a variety of cultures (McCord & McCord, 1959; Rosenquist & Megar-gee, 1969; Wilson & Herrnstein, 1985). Coupled with this was inappropriate discipline, that is discipline that is either lax or excessive, inconsistent or unfair. Obviously, if chastisement or punishment helps condition values, erratic schedules of negative reinforcement will interfere with such learning.

At a later age, familial situations that interfere with the process of identification and introjection are detrimental to value formation. In broken homes, the process of identification might be subverted by parental absence or by the efforts of one parent to diminish the other in the child's estimation (Bee, 1985, p. 332f).

Writing from a psychoanalytic perspective, Adelaide Johnson (1949) noted that some apparently well socialized parents might obtain unconscious gratification from their children's acting out. In a family the writer was seeing in therapy, the father, who was overtly outraged over his son's auto thefts, was noted to whisper, "Gee that took real guts" when his son described the high speed police chase that had ensued. Of course the father vehemently denied his sotto voce remark. Such dual messages,

according to Johnson (1949), lead to what she termed "superego lacunae".

Previously we noted that value development is abetted by growing up in a milieu in which all the agents of socialization work together to foster a consistent set of values. Obviously, a situation in which this is not the case, in which the child is exposed to differing values or in which adults say one thing and do another, is less conducive to good moral development. These conditions may well yield values that differ from those prescribed by the larger society. We shall now turn to a discussion of such deviance.

b. Deviant values. We often think of people who engage in socially reprehensible behavior as being immoral or amoral. The problem, however, may not be inadequate values but values that differ from those of the society at large or from the laws of that society. Sociologists interested in deviance have been especially interested in this phenomenon and have proposed a number of ways that it might come about.

Within a heterogeneous country like the United States, we will find many subgroups and subcultures with somewhat differing views of what constitutes acceptable and unacceptable behavior. It is not surprising that cultural conflict was one of the first explanations offered for deviant values (Sellin, 1938). While these subcultural gaps were most evident in the United States when immigration was at its peak, mass means of communication appear to have lessened the disparities somewhat (Rosenquist & Megargee, 1969; Velez-Diaz & Megargee, 1971). In Israel, however, some scholars have attributed deviant behavior to cultural con-

flicts between European and Sephardic immigrants (Shoham, 1962).

A number of sociologists have pointed to "anomie" or normlessness as a factor in producing deviant values. Robert Merton (1938; 1957) noted that the Horatio Alger myth requires that everyone, no matter what his or her prospects, should strive for status and material success. However, we are also supposed to be honest and upright. Many people may have to choose between these conflicting values, because, given their circumstances and abilities there is no realistic way for them to do both. As Cloward and Ohlin (1960, p. 86) described it, "Faced with limitations on legitimate avenues of access to these goals, and unable to revise their aspirations downward, they experience intense frustration; the exploration of nonconformist alternatives may be the result."

This "differential opportunity" or "strain" theory dovetails neatly with Earnest Sutherland's (1939) "differential association" theory which emphasizes the influence of deviant role models. In an urban ghetto, the role models for success are rarely people who made it from the streets to the corporate boardrooms; instead it is the pimps and pushers with their gold chains and expensive cars who are conspicuous. If, during this period of exploring "nonconformist alternatives", youths are recruited by a gang (Salisbury, 1959) or have the opportunity to serve as runners for neighborhood crack dealers, they may be inducted into a very lucrative life of crime while still very young and become socialized with street values which are antithetical to the moral codes of the larger society.

Deviant subcultures are not only found in the streets and

ghettos; they also exist at the upper end of the financial and political ladder (Clinard & Quinney, 1973; Vold, 1958; 1979). Faced with a strain between ethical and legal restrictions and a get-rich-quick mentality, some Wall Street brokers recently adopted a deviant set of values and made money the truly old fashioned way ...they stole it.

A strain between ends and means can occur in the political arena as well. Of those convicted of wrongdoing in connection with the Watergate break-in and the Iran-Contra affair, both G. Gordon Liddy and Oliver North appeared to have strong, well developed, but deviant value systems which dictated that they should engage in illegal behavior to accomplish goals that they felt were more important than abiding by the law.

Although other theorists have also discussed deviant subcultures and culture conflict, let us turn to the interactionist or labeling perspective as an explanation for the development of deviant values. Becker (1964), Garfinkel (1956), Lemert (1967) and other interactionists maintained that society creates social deviance by formulating rules and applying sanctions to people who break them, thereby labeling them as deviants.

According to Garfinkel (1956), one consequence of a "degradation ceremony" such as suspension from school, a criminal conviction, or a commitment to a mental hospital is that the stigmatized individual may accept the label and adopt deviant values consistent with this new identity. Thus a person who is regarded as being "immoral", "crazy", or "bad" in some respect may start associating with other people who are similarly labeled and emulating their behavior. Of course this convinces the label-

ers of the correctness of their initial appraisal, and additional stigmatization may be applied that solidifies the deviant self concept.

Although early childhood is when our basic values are formed, people continue to learn and to develop throughout their lives. Circumstances and reinforcement schedules may change, so the values we learned as a child may not equip us for the challenges we face as adults. A youthful idealist may find that the Golden Rule does not work well in the competitive world of business and that Charles Dickens was nearer to the mark when he wrote, "Do other men for they would do you. That is the true business precept" (Beck, 1980, p. 547). Military training is designed in part to help personnel overcome the taboo against killing other humans. Psychotherapy may be required to help adults overcome strong sexual inhibitions ingrained into them as children.

2. Overcoming controls. It is virtually impossible for you to reach adulthood without having acquired a code of values. It may not agree with everyone else's code of values, it may not even agree with anyone else's code, but it is yours and you will usually try, with greater or lesser success, to abide by it. Whether you succeed depends on your ability to control your behavior.

Internal controls only operate when we are tempted to do something that is contrary to our code of values. If there was no temptation, there would be no need for restraint.

Scruples get us involved in internal conflicts. These con-

flicts can be stressful and occasionally anxiety-provoking. They also have the unfortunate effect of either preventing us from doing things we would like to do, like eating the chocolate mousse when we are dieting, or making us feel guilty if we do succumb. Given these circumstances, it is not surprising that most of us have devised ingenious ways of overcoming our moral inhibitions.

a. Rationalization. Rationalization can be used to justify acts and thereby circumvent the injunctions against them. Rationalizations are especially effective in situations in which the moral boundaries are fuzzy.

As we have noted, we must first categorize an act as belonging to that class of acts we regard as "wrong" before moral prohibitions come into play. In the current policy debates over capital punishment and abortion, all the participants agree that murder is wrong. The problem is that some classify executions and/or abortions as murder and others do not.

Rationalization can be used to convince us that an act that appears to be wrong actually is not. This makes it permissible. For example, most politicians probably would agree that it is wrong for public officials to accept bribes. But some legislators might reason that if they have already decided to vote for a piece of legislation it does no harm to accept a contribution from a contractor who will benefit from the project. Indeed, the official might reason that turning down the contribution would be tantamount to denying contractors their rights to participate in the political process. Why, it might even be contrary to the First Amendment!

One common form of rationalization is to concede the general principle, but to classify the present case as an exception to the general rule. The key word "but" is a good sign of this sort of rationalization. "I know she said 'no', but she really didn't mean it." "Sure, dealing drugs is bad, but if I don't sell them, someone else will and they might sell my customers bad stuff." As the old country preacher stated, "A lot of sinners slide into Hell on their 'buts'."

b. Value conflict. When two or more values conflict, they tend to neutralize one another (Sykes & Matza, 1957). If the values are not deeply held or evenly balanced, this does not pose a great conflict. Indeed we may be able to use this conflict to allow us to do what we want without feeling guilty. (After all, if the forbidden behavior was not fun, we would not be tempted in the first place.)

People can also use value conflicts to manipulate others people into abandoning their scruples. Thus, a dieter who might refrain from ordering a piece of cake at a restaurant may acquiesce at a wedding if the bride and groom insist they will be offended by a refusal. Maintaining their friendship seems more important than avoiding calories. Of course, the more one wants to do the forbidden act, the more effective value conflicts are in overcoming scruples.

The basic issue in many value conflicts is whether the end justifies the means. Politicians may feel they need to get elected for the good of the country, even if it requires negative campaigning. The principles in the Iran-Contra affair felt that

maintaining the security of their covert operation--justified--
lying to Congress.

Hogan's (1970; 1973) theory of moral behavior postulates an ethical continuum from considerations of "personal conscience" to "social responsibility" that can dictate different solutions to certain ethical dilemmas such as whether one should do something one regards as personally wrong to benefit the overall social group. Such a moral dilemma is at the heart of Shakespeare's tragedy Julius Caesar in which the cunning Cassius used Brutus' patriotism to turn him against Caesar. After the assassination, an agonized Brutus attributed his participation to value conflict, explaining, "Not that I loved Caesar less, but that I-- loved Rome more" (III,ii,22). As Antony noted, "...Brutus is an honorable man; So are they all, all honorable men" (III,ii,88).

When the competing values involve deeply held convictions, we are placed in a double approach-avoidance conflict, the type that creates the most stress and anxiety. Sometimes such conflict is resolved by attempting a compromise. Suppose a young man's buddies ask his help in robbing a store. Which is worse, disloyalty or stealing? He may offer to help by being the lookout or driving the get-away car but not actually going into the store.

c. Suspension of individual values. In the wake of World War II, a number of social psychologists began investigating how the Holocaust could occur. Studies by Asch (1951) on conformity and Milgram (1965) on obedience to authority showed that people will often suspend their individual values and instead let others dictate their behavior, even when they feel it is wrong. Similarly, studies of bystander intervention by Darley

and Latane (1968) demonstrated that people who would be inclined to assist someone in distress refrain from doing so when there other people present who are not helping.

Suspension of individual values is particularly strong in a group setting. Studies of group decision making have demonstrated that the decisions made by groups are apt to be riskier or more extreme than the decisions made by the individual participants. Janis' (1972) research on the phenomenon he dubbed "groupthink" following the Bay of Pigs invasion showed that, to maintain a consensus, a group of people will agree with decisions that they individually think are incorrect and/or morally wrong .

Anonymity assists in this deindividuation. One of the first major steps in curbing the power of the Ku Klux Klan in the South was the passage of laws forbidding people to wear masks in public. From Kent, Ohio to Beijing, China, it is easier to open fire on unarmed students if you are an anonymous soldier who is "following orders" rather than an individual dressed in civilian clothes acting on your own.

d. Dehumanization of the victim. The more empathy we have for someone, the more difficult it is for us to hurt or injure them, physically or emotionally. Our appreciation of that person's humanity serves to activate our internal inhibitions against doing wrong to our fellows.

By the same token, anything that dehumanizes a potential victim makes it easier for us to suspend these values. Oddly, it seems less reprehensible for someone to give an order that may result in the deaths of thousands of strangers in a far away land

than it is for that person to strangle a single individual. Some kidnaped hostages have reported that their captors kept them in tents or covered their heads with bags to prevent the development of human ties that might inhibit the captors from killing their victims.

Racial, religious, social class and gender differences increase the emotional distance between people and decrease their inhibitions against harming one another. The ordinary German was better able to tolerate the Holocaust as long as it was happening to the Jews, the Gypsies and the mentally defective, just as the ordinary American was less concerned about AIDS when it appeared to be a disease confined to homosexuals and drug addicts. In preparation for combat, it is a standard tactic to tell the troops how different and reprehensible the enemy forces are in order to diminish inhibitions that might hinder their effectiveness.

e. Psychopathology. Functional as well as organic mental disorders can also decrease inhibitions and controls. Daniel M'Naghten's inhibitions against shooting Sir Robert Peel were overcome by his paranoid delusion that Peel was persecuting him. Actually M'Naghten shot the wrong man, but his belief that he was acting in self defense led to his acquittal and the formation of the M'Naghten test of legal sanity in 1843.

Other disorders can also lead to a diminution of inhibitions. A profoundly depressed person may feel there is nothing to live for so that ordinary inhibitions are ineffective. Extreme guilt may lead to self-punitive or suicidal behavior that would otherwise be inhibited. In a psychogenic fugue or multiple per-

sonality, a person may act out various repressed behavior patterns without being aware of doing so.

Although certain disorders can lead to diminished controls, it would be an error to equate mental disorders with uncontrolled and possibly dangerous behavior. A catatonic stupor, for example, is perhaps the ultimate in inhibited behavior.

VI. Methodological problems

In the preceding pages we reviewed a diverse broad array of regarding the origins of internal inhibitions and how such inhibitions may be overcome. As scientists, most psychologists would prefer to test divergent theories empirically. Unfortunately, a number of conceptual, ethical and methodological problems make it difficult to conduct definitive experiments on controls and inhibitions.

A. Acquisition of values. Testing differing theories on the acquisition of values presents us with our most difficult challenge. Children obviously can not be randomly assigned to various patterns of childrearing to test the effects of various disciplinary practices or to different families to determine the effects of single parent homes. Although some animal experiments, such as Harlow's (1971) studies of monkeys reared by wire mesh surrogate mothers, are relevant to issues in child development, by and large infrahuman subjects are not suitable for research on the development of values.

In the absence of experimentation, we have to resort to correlational methods, naturalistic observations, and "experiments of nature". Since such studies are inevitably confounded,

we must adopt a variety of strategies and use many different subject populations in the hope that the variables that confound one study will be absent in the next. Since values are culture specific, cross cultural research is vitally important. Gradually over time, a core of reliable associations should emerge.

As indicated earlier, there is general agreement that a warm, stable family setting is most conducive to developing values and controls, at least in our culture. Oddly enough, much of this consensus has come about through research on people who appear to have deficient values and/or inadequate controls, namely juvenile delinquents and adult criminals. When examined more closely, even these studies show some cultural specificity. Comparing the family patterns associated with delinquency in three different cultures, Rosenquist and Megargee (1969) noted differences in the effects of the father-son relationship in Mexican, Mexican-American and Anglo-American families.

More research is needed on the antecedents of positive socialization in a variety of cultures. While longitudinal research is desirable, other approaches can also be used. By identifying people differing in socialization, we can test hypotheses about their upbringing and antecedents. For example, we found that middle class college students who differed in socialization, as measured by the Socialization scale of the California Psychological Inventory (Gough, 1969), came, as predicted, from families that differed significantly in stability and cohesiveness (Megargee, Parker & Levine, 1971). But would the stability of the nuclear family be as important in a culture that relied on commu-

nal child rearing? This is an empirical question that needs to be answered before we overgeneralize from our own society.

One of the bright spots in the area of acquisition of values has been the research on moral development by psychologists such as Piaget, Selman, and Kohlberg. Their studies have shown that children in Western countries progress through a series of distinct stages in their moral judgments.

Are these stages universal or specific to Western culture? One test of moral judgment (Kohlberg, 1984) creates hypothetical ethical dilemmas by juxtaposing carefully chosen antithetical values. In one oft-cited example, the respondent is asked to decide whether "Heinz" was right or wrong when he stole an exorbitantly priced medicine he could not afford to purchase in order to save his dying wife. Western children "progress" from answering that Heinz was wrong because he broke the law to responding that human values supersede property values or laws. But is this sequence culturally universal? What would be found in a country such as North Korea in which positive socialization consists of unquestioning obedience to the state and loyalty to Marshall Kim Il Sung, known and revered as the "Great Leader"?

As we noted, the physiological foundations for socialization and restraints remain largely unexplored. Perhaps the paradigms devised by developmental psychologists could be used to investigate the role of the central nervous system by applying them to people with various types of CNS impairment or developmental disabilities.

Comparative anthropological and ethnographic studies including data on childrearing patterns and values can be used to help

test the generality of our observations. Social histories and treatises on childrearing from various eras and cultures also provide a useful perspective on our ethnocentric assumptions. Fortunately data collection is easy and inexpensive, involving only a trip to the library, with, perhaps, a stop at the Anthropology Department for a quick consult. Aries and Duby's histories of private life in ancient Rome, Byzantium and medieval Europe (1987-1988) and Benedict's (1934) and Mead's (1961; 1975) anthropological observations are good starting points.

As we have noted, studies of people with apparently deficient socialization have suggested that certain patterns of living and early life experiences are crucial to moral development. These hypotheses can be partly tested by prospective studies in which people who do and do not have these deficits are identified, predictions are made, and then the subjects are followed up over time to determine whether the predicted patterns emerge. This approach, which is much more powerful than the more common retrospective design, can be used to explore the sequelae of such factors as parental absence due to death or dissension, of being exposed at an early age to differing sets of values and mores, and even the long term effects of severe deprivation and abuse.

B. Exercising control or restraint. It is considerably easier to conduct empirical studies, especially experiments, on when and whether people choose to behave according to their values than it is on how their values developed. Indeed, researchers in a variety of allied areas have already accumulated a

number of relevant empirical findings even though they were primarily interested in studying different phenomena. As we have noted, social psychologists interested in conformity, obedience to authority, group decision making, and bystander intervention have contributed considerable information on those situations in which people do and do not behave in accordance with their values. Similarly, clinical psychologists studying the effects of alcohol on aggression and other social behaviors have provided us with relevant findings and, perhaps more important, research designs that can be used to study directly the effects of alcohol and other substances on controls and restraints.

Still, there are numerous problems. First and foremost is the problem we cited at the beginning of this chapter, namely the fact that inhibitions and controls are negative concepts that must be defined by exclusion. How can one be certain that inhibitions prevented certain expected behaviors from occurring? Researchers may have to induce the appropriate the motivational state at the outset of the experiment, include a manipulation check to make sure the procedure was effective, and go through a variety of contortions to make sure that various alternative explanations for restrained behavior are eliminated.

Fortunately, these sorts of dilemmas typically involve approach-avoidance conflicts and there may be verbal utterances and other indications of the existential struggles that are taking place. ("Oh, it looks so good but I really shouldn't. Are you positive that the Black Forest tort doesn't have any calories?") Similarly, long response latencies, vacillation, and signs of anxiety or guilt may help the observer to infer that

inhibitions or constraints are operating.

Problems in studying controls and restraints are compounded by the fact that many taboos are very specific with respect to situations and targets. The classic research by Hartshorne and May (1928), for example, found that children cheat in some situations but not in others. A man that would never dream of hitting his mother might beat his wife, but only in private after he has been drinking. Hogan's (1970; 1973) research indicates that, in addition to socialization, we must also consider empathy, autonomy, and whether a person is guided more by his or her personal conscience or a sense of social responsibility.

A potentially fruitful area for research is on the situational factors that influence whether or not we act on our inhibitions and controls. In a series of studies, the present writer and his colleagues have investigated the situational factors that determine whether people high in Dominance, as assessed by the CPI Dominance scale, actually assume leadership (Megargee & Carbonell, 1988). A similar paradigm could be utilized to study the circumstances in which people with varying levels of socialization or self control inhibit their behavior or succumb to temptation. Is the presence of others conducive or detrimental to self control? Are we better behaved in the presence of some people than we are with others? What are the effects of pro-social or anti-social models?

Field research on actual examples of people exercising constraint or control because of value judgments they have made

is a largely unexplored but potentially important source of data. Once again, an allied research area, in this case behavioral medicine, could be a valuable source of data and designs. The literature on compliance, dieting and smoking cessation involves exercising restraints and self control in real life situations with important contingencies involved.

In order for ethical values to come into play, it is necessary that a particular behavior be classified as "right" or "wrong". As we have noted, psychologists interested in moral development have constructed a number of hypothetical dilemmas to investigate moral reasoning.

These studies of artificial situations could be supplemented by research on "real life" ethical dilemmas. For many young men in the 1960s, participation in the Viet Nam war presented such a crisis; for young women in the 1980s, abortion can be a similar issue (Gilligan, 1977). These problems often involve agonizing personal decisions and taking public stands. From a research standpoint, the particular issue and its resolution are not as important as the process by which the person decided, whether or not the choice was congruent with his or her particular code of values, and the subsequent problems encountered in living with the decision. Research with people who have had to grapple with such dilemmas and their consequences could help us determine the generality of findings based on hypothetical situations.

C. Building for the future. Psychological research on internal inhibitions and constraints and their influence on behavior is still in its infancy. Although we have several theories and a

number of assumptions regarding the origins and operations of internal controls, relatively little has been established with certainty.

For various reasons, personality researchers have not been eager to study controls and inhibitions. Those studies that have been done have often involved people who failed to develop what others regarded as adequate or appropriate values or who failed to live up to them and behaved in an antisocial fashion. It is, perhaps, significant that the editors of this Handbook recruited a psychologist whose research has focused on criminal behavior and violence to write this chapter.

Of course, compared with other disciplines, we psychologists are new to the study of internal inhibitions and restraints. The first stages in any scientific inquiry are to review the literature, make preliminary observations and form hypotheses. One of the primary theses of this chapter is that psychologists interested in studying internal inhibitions and controls should cast off our disciplinary blinders and consider the observations, speculations and theories of anthropologists, criminologists, sociologists, ethicists, philosophers, and theologians...even playwrights and poets...in short of all the scholars who have struggled with these issues over the years.

Controls involve behaving according to one's values, and individual values differ from culture to culture and from era to era. Therefore another thesis has been that observations and investigations of the origin and application of ethical values in our society must be replicated in other cultures, and that our studies in the present should be enriched by a consideration of

how people behaved in the past.

A third thesis has been that a great deal of research relevant to these issues has been conducted by psychologists who were primarily interested in other questions. Among the areas cited were social psychology, behavioral medicine and physiological psychology. A number of important observations and hypotheses can be derived by reviewing the literature in these areas to ascertain their relevance to controls and restraints.

Finally, no one would dream of formulating a theory of esthetics supported only by observations of people who are color blind or time deaf. Yet much, perhaps most, of our observations and theories about inhibitions and controls have been based on investigations of people who are poorly socialized or impulsive. In the future we should investigate people with positive as well as negative value systems and well functioning as well as deficient systems of controls.

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APPENDIX 3

THE RELATIONSHIP OF PSYCHOPATHY AND INTELLIGENCE
TO VIOLENT CRIME

THE FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

THE RELATIONSHIP OF PSYCHOPATHY AND INTELLIGENCE
TO VIOLENT CRIME

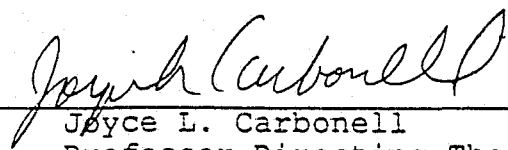
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CHAPTER 1

INTRODUCTION

Violent crime is one of the oldest societal problems. Countless theories have been generated to identify situations or people most closely associated with violent crime, to understand the forces that could bring someone to commit a violent criminal act, and finally, to determine the appropriate plan of action for people who commit these criminally violent acts. However, despite the longevity of this problem and the extensive research that has been done on violent crime, it is still extremely difficult to pinpoint accurately individuals who are most likely to commit violent criminal acts, and the situations in which these acts are most likely to occur.

Before criminal violence is explored further, it is necessary to define precisely what it is. Criminal violence is a subcategory of a class of behavior called violence. Criminal violence is illegal violence, or violence which is prohibited by the laws of a given society. So what is violence? Unfortunately, violence

has historically been hard to define. According to Megargee (1982), "...most of us think we know exactly what it means; the problem is that our definitions may not agree with anyone else's" (p. 82).

The National Commission on the Causes and Prevention of Violence defined violence as "overtly threatened or overtly accomplished application of force which results in the injury or destruction of persons or property or reputation, or the illegal appropriation of property" (Megargee, 1969). According to Shah (1978), dangerous, or violent, behavior "refers to acts that are characterized by the application of or the overt threat of force and that are likely to result in injury to other persons" (p. 224).

Although these two definitions of violence sound similar in that both involve force and injury to people, there are two subtle differences. First, the Commission's definition includes destruction of property or reputation under the umbrella of violent behavior, whereas Shah's definition does not. Second, the Commission's report requires that an act "result in the injury or destruction of persons..." to be considered violent, in contrast to Shah's view of violence, in which the only requirement is that the act

be "likely to result in injury." This semantic difference underscores the dilemma of how to classify potentially violent acts that were, for one reason or another, not brought to fruition.

Just as criminal violence is an illegal form of violence, violence is an extreme form of a broader, and even more elusively defined class of behavior, aggression. In 1939, Dollard, Doob, Miller, Mowrer & Sears, commonly known as "the Yale group," defined aggression as "an act whose goal-response is injury to an organism (or organism surrogate)" (p. 11). The Yale group's conceptualization of violence, thus, includes only behaviors designed specifically to hurt other organisms.

But what about actions in which someone is harmed "accidentally," as a by-product of gaining something else, such as money or status? Buss (1961) addressed this issue of intent in his definition of aggression, by separating aggressive acts into behaviors which spring from a desire to injure the victim, or angry aggression; and aggressive behaviors which are performed in the process of obtaining another goal, or instrumental aggression.

Another issue that must be addressed when defining aggression is the extent to which the aggressor must go for his actions to be considered aggressive. Olweus (1973) defined the aggressive response as "any act or behavior that involves, might involve, and/or to some extent can be considered aiming at, the infliction of injury or discomfort; also manifestations of inner reactions such as feelings or thoughts that can be conceived to have such an aim are regarded as aggressive responses." (p. 270).

Olweus included aggressive thoughts and feelings in his definition of aggression, regardless of whether these "inner reactions" were acted upon or not. Preferring a more observable, concrete approach, Megargee (1982) defined aggression as simply "agonistic or injurious behavior" (p. 82).

It can be seen that the definitions of violence and aggression are almost as numerous and varied as the researchers who study them. However, these subtleties between definitions are important, because how violence is defined determines which behaviors are measured, and consequently determines the results that are found. This study defines criminal violence as documented illegal acts which contained the possibility to inflict

(potential violence), or actually inflicted harm on another person, regardless of whether the harm was intended (Buss' "angry aggression), or the by-product of illegally achieving some other goal (Buss' "instrumental aggression.")

Methodological Problems in Studying Violent Behavior

In addition to the lack of an agreed-upon definition of criminal violence, there are other reasons why our knowledge of violent criminal behavior has progressed so slowly. One limitation to the study of violent behavior is that it is generally considered unethical to manipulate violence in the laboratory. However, milder forms of aggression have been studied in the laboratory (e.g., Milgram, 1965). An important question regarding this line of research is, "Can what has been learned about milder forms of aggression be generalized to violent behavior?" This question has not yet been successfully answered.

Since the experimental method is not generally used in studying violent behavior, other approaches must be taken. One technique that has been used in the study of violence is the postdictive, rather than predictive, study. For example, offenders who are incarcerated for

committing violent crimes are assessed on personality or other types of tests, to see if the test data correlate with their previously violent behavior. Another method of studying violence is to test a group of "high risk" individuals, such as incarcerated offenders, on a variety of measures, obtain violence follow up data at a later point in time, and see if the violence data correlate with the previously collected information.

Switching the focus from identifying violent behaviors to identifying violent individuals presents a different set of problems. For example, Megargee's (1981) review of the violence prediction literature highlights the high rate of false positive predictions in the attempted identification of violent individuals as one of the largest drawbacks of this line of research.

A fundamental assumption in the study of violent individuals (rather than violent behavior) is that behavior is a product of an individual's constellation of personality traits. One disadvantage of such a person-oriented conceptualization is that it assumes that the proclivity to commit violence is an enduring

trait, and thus the model does not take into account situational variables.

In 1978, Shah outlined the limitations of a personality model in the understanding of violent behavior, and previously, Monahan (1975) had noted its inadequacies in the prediction of violence. Both authors suggested that violence be conceptualized as an interaction between personality characteristics and situational variables, but few studies have systematically studied the situational factors that contribute to violent criminal acts, probably due to the methodological difficulties of doing so. Therefore, even with an outstanding personality-based theory of violent behavior, its effectiveness in helping us to understand criminal violence is limited, since an equally important factor, situational variables, is not addressed in the theory's conceptualization.

Algebra of Aggression Theory

One personality theory that has incorporated situational variables is Megargee's (1969, 1971, 1981, 1982) "Algebra of Aggression." According to this theory, the reaction potential of an individual in a

given situation is determined by the interaction of five personal and situational factors. The personal variables are labelled "instigation to aggression," "inhibitions against aggression," and "habit strength." The situational variables are called "facilitating stimuli" and "impeding stimuli."

The first personal factor, "instigation to aggression," includes all motivations that might lead an individual to commit an act of violence. Buss (1961) distinguished between intrinsic and extrinsic motivations of aggression. "Angry aggression" is intrinsically motivated by a desire to hurt the victim, whereas "instrumental aggression" is motivated by a desire to obtain some end, i.e., material gain or status. Both angry and instrumental motivation would be included under the rubric of instigation to aggression.

A second personal factor in the Algebra of Aggression is "inhibitions against aggression." The inhibitions work in a reciprocal fashion to the motivating factors, for if the inhibitions against aggression are greater than the motivation to commit aggression, then the aggressive act will be suppressed. Most people's inhibitions to aggression or violence

outweigh their motivations to commit violence most of the time.

Inhibitions can be connected with an action or with the target of a given action. For example, many people have inhibitions against yelling (inhibitions associated with an action), but this writer would venture to say that many more people have inhibitions against yelling at their employers (inhibitions associated with a target).

Consider the example of a teenager who works in a fast food restaurant. He is not particularly inhibited against yelling, but he does have strong inhibitions against yelling at his employer, so even when angry, he is able to resist the urge to yell at his boss. However, since he is not generally opposed to yelling, he may go home that same night and yell at his parents or siblings, without noticing any overall inconsistency.

The third personal factor, "habit strength," refers to an individual's learning history, and how reinforcing it has been for him to engage in violence in the past. A teenager who is a member of an aggressive inner-city gang would likely have a high habit strength for violence, whereas the previously

mentioned teenager would likely have a lower habit strength, since his lifestyle would probably not reward similarly violent behavior.

The situational factors influencing violent behavior include everything that is immediately external to the individual, i.e., environment, setting and stimuli. The situational factors can be facilitative of violence or they may impede the expression of violence. Facilitating situational factors include all circumstances which would encourage the use of violence. Examples are possession of a weapon by the assailant (and not the victim), few witnesses or an encouraging crowd. Impeding situational factors include all facets of the situation that would inhibit the occurrence of violence, such as possession of a weapon by the victim (and not the assailant), the presence of a police officer, or the probability of losing one's job as a result of a violent attack. Thus the surrounding circumstances, parts of the surrounding circumstances, and perhaps the way in which the surrounding circumstances are interpreted by the individual, can play a crucial role in the decision to commit an act of violence.

The Algebra of Aggression is as follows: If the inhibiting factors, impeding stimuli and a relatively low habit strength outweigh the instigation to aggression and facilitating stimuli, then violence, or aggression, will probably not occur. If the instigation to aggression, a relatively high habit strength and facilitating stimuli outweigh inhibiting factors and impeding stimuli, then it is possible for a violent act to occur.

Once it is possible for a violent act to occur, whether the violent act actually occurs or not depends on one other variable, response competition. If it is possible for an aggressive act to occur, then the individual must choose between many violent and nonviolent responses to determine which is the most appropriate or effective way to express this aggression.

Thus, the teenager who yelled at his family instead of his manager acted aggressively, but not towards the true object of his aggression. He likely considered the consequences of yelling at his boss (possibly getting demoted or fired), and chose another less gratifying, but in the long run, more economically secure, aggressive response. The adolescent inner-city

gang member would likely have chosen a different aggressive response, since he may have been previously rewarded for a larger variety of aggressive behaviors (habit strength), thus he may have a greater number of working aggressive responses from which to choose (response competition).

Thus, the Algebra of Aggression theory proposes that there are individual differences in instigation to aggression, inhibitions, habit strength and response competition. Also, different situations influence the production of violent behavior, so that someone who would have no problem engaging in violent behavior in one setting might be hesitant, or completely unwilling, to do so in another.

It would follow then, that if there is a personality pattern, or a group of personality traits that are associated with high aggressive instigation, low inhibitions, high habit strength and a large repertory of aggressive responses, then these people would be more likely to perform aggressive or violent acts than those who were lower in such characteristics.

Additionally, if these people perceived situations to be more threatening to them, and/or more facilitating of violence than did the average person,

then they would be more likely to consider violence as an effective option in these situations. Also, their motivation (or instigation) to become violent would probably increase as well. Moreover, if these people were exposed to situations that were, in fact, conducive to aggressive behavior, then the probability of their engaging in such behavior would be that much greater.

The Violent Individual?

One group of people in particular, people labelled as "psychopaths," seem to possess many potentially violence-facilitating characteristics. Unfortunately, Megargee's (1982) quote concerning the definition of violence is equally applicable to the definition of the term, psychopath. That is, "Most of us think we know exactly what it means; the problem is that our definitions may not agree with anyone else's" (p. 82).

The fact that the term psychopath has undergone considerable changes in nomenclature in the past century has not aided the quest for a precise definition. "Psychopath" was originally introduced as a descriptive label in the late 1880's (Koch, 1888). In 1968, with the introduction of the second edition of

the Diagnostic and Statistical Manual (DSM-II), psychopaths were renamed sociopaths. The label was changed again in the DSM-III (1980), and was retained in the DSMIII-R (1987), as "antisocial personality disorder."

Whether one is talking about psychopaths, sociopaths or people diagnosed as having antisocial personality disorder, if the current DSMIII-R criteria are accepted, the people being described have a history of truancy, physical cruelty to people and/or animals, lying, and vandalism or stealing before age 15. They have also engaged in parental, financial and/or occupational irresponsibility, as well as possible lawlessness or aggressiveness since age 15. In order for the diagnosis of antisocial personality to be warranted, the behavior patterns in question cannot be directly attributable to severe mental retardation, schizophrenia, or manic episodes (DSMIII-R, 1987).

One of the main goals of the DSM-III and DSMIII-R was to describe psychological disorders in terms of observable behavior. Some authors believe that in adopting a behavioral definition of antisocial personality disorder, "the DSM-III (and DSMIII-R) indicators bring the concept of antisocial personality

dangerously close to criminal behavior in general" (Davison & Neale, 1982, p. 279). Modlin (1983) has argued that it is difficult to diagnose an individual as having antisocial personality disorder using the present criteria if he is not already a criminal.

Concerning the mislabelling of ordinary criminals as psychopaths, Hare (1978) found that 76% of a sample of prison inmates met the DSM-III criteria for antisocial personality disorder. In contrast, a definition which described the personality characteristics of psychopaths (Cleckley, 1976) fit only 33% of these prisoners.

In the Algebra of Aggression theory, personal and situational characteristics could be said to be independent variables, whereas (aggressive) behavior could be labelled the dependent variable. If this model is employed, and the dependent variable is behavior, a behavioral definition of the psychopathic personality would seem rather circular. A personality theory of psychopathy that delineates the psychological attributes of the psychopath would clearly be more useful to this formulation. For this reason, and due to the aforementioned drawbacks of the DSMIII-R diagnosis, Cleckley's 16 characteristics of the

psychopath, as outlined in his germinal work, The Mask of Sanity (1976), will serve as the definition of psychopathy in this paper. These are listed below.

- 1). Superficial charm and good "intelligence."
- 2). Absence of delusions and other signs of irrational thinking.
- 3). Absence of "nervousness" or psychoneurotic manifestations.
- 4). Unreliability.
- 5). Untruthfulness and insincerity.
- 6). Lack of remorse or shame.
- 7). Inadequately motivated antisocial behavior.
- 8). Poor judgment and failure to learn by experience.
- 9). Pathologic egocentricity and incapacity for love.
- 10). General poverty in major affective reactions.
- 11). Specific loss of insight.
- 12). Unresponsiveness in general interpersonal relations.
- 13). Fantastic and uninviting behavior with drink and sometimes without.
- 14). Suicide attempts rarely carried out.

15). Sex life impersonal, trivial, and poorly integrated.

16). Failure to follow any life plan.

It can be readily seen how some personality characteristics possessed by psychopaths (absence of nervousness, failure to learn by experience and inadequately motivated antisocial behavior) could be associated with components of the Algebra of Aggression model, i.e., low inhibitions, high habit strength, and large repertory of aggressive responses, respectively. In direct relation to the Algebra of Aggression theory, Hare (1981) wrote

"The nature of the person-situation interaction as a determinant of violent behavior is not the same for psychopaths as it is for others. Most of the factors that help to inhibit antisocial and aggressive behavior in normal persons--empathy, fear of punishment, etc.--are more or less missing in the psychopath. As a result, he has a larger repertory of actual behaviors than does the normal person. While most of us have strong inhibitions against inflicting physical damage upon

others, the psychopath does not...What this means is that the psychopath's behavior is not influenced by personal inhibitions, and that it is of little emotional consequence to him whether he satisfies his needs aggressively or otherwise." (pp. 58-59)

Thus, according to the Algebra of Aggression theory, psychopaths would be more likely than nonpsychopaths to commit acts of violence, due to their lowered inhibitions concerning antisocial behavior, their wider array of possible aggressive and nonaggressive responses, and their tendency to perceive threat in potentially neutral situations (Blackburn & Lee-Evans, 1985).

It must be mentioned, though, that just because psychopaths may be more likely than nonpsychopaths to commit violence does not mean that they will, in fact, engage in violent behavior. Psychopathy alone may not tip the algebra of aggression equation in favor of violence. However, given the constellation of personality traits associated with psychopathy, it would probably take less impetus for psychopaths to commit violent acts than it would for nonpsychopaths to engage in the same violent behaviors.

The literature on psychopathy and violence is consistent with this hypothesis. It appears that psychopaths as a group are not significantly more likely to engage in violent crime than are nonpsychopaths. However, studies which combined psychopathy with a mediating variable, e.g., low IQ, tended to find that the combination of factors better correlated with violent behavior than did psychopathy alone.

A question that may be asked at this point is, "How do mediating variables, in this example, low IQ, facilitate violent behavior, according to the Algebra of Aggression theory?" First, those persons with low IQ's probably experience more frustration in reaching their goals than do other people (Dollard, Doob, Miller, Mowrer & Sears, 1939). For example, they likely have difficulty obtaining well-paying, satisfactory employment.

Also, they likely have difficulty processing abstract information, which means that much of the frustration they experience remains unexplained to them. Arbitrary frustration is, in many ways, more disturbing than explained frustration, thus, low IQ individuals likely experience more frustration than do

people possessing higher intelligence simply due to the nature, and the persistence, of their frustration. This increase in frustration level could potentially translate into an overall increase in instigation to aggression for low IQ individuals.

Also, concerning the Algebra of Aggression variable, response competition, there are fewer alternative modes for the expression of frustration available to low IQ individuals than there are available to other people. Whereas people with a higher intelligence level might submit a grievance form, write a letter to the vice president of a corporation, or petition the Better Business Bureau when they were dissatisfied with the treatment they received from a company, individuals possessing less intelligence might not entertain such possibilities, nor have the faculties with which to execute them.

Therefore, low IQ can be seen as a variable which could potentially facilitate violent behavior, due to a possible increase in instigation to aggression and a decrease in the number of alternative, nonviolent responses open to people possessing limited intelligence.

Thus, the combination of psychopathy and the mediating variable of low IQ could be expressed in terms of the Algebra of Aggression model as high instigation to aggression, lowered inhibitions, and a limited repertory of alternative, nonaggressive responses. It is possible that this combination of factors could override certain impeding stimuli, and the individual's remaining inhibitions against violent behavior, and violence may occur. (The variable, habit strength, was not addressed in this conceptualization.)

In summary, not only the literature on psychopathy and violence, but the entirety of the literature on violent behavior, is fraught with many methodological limitations. Since ethical codes restrict the creation of violence in the laboratory, the experimental method is not often employed to study violence. One approach that has been taken in the study of violent behavior is to study individuals who have committed violent crimes, to see how they differ from other groups of people. This approach is not without its limitations, either. The biggest limitation of the "violent individual" approach is that it does not acknowledge situational components of violent behavior.

Megargee (1982) has incorporated both situational and personal factors into his model of aggressive behavior, the "Algebra of Aggression." In Megargee's theory, the personal factors involved in aggression are instigation to aggression, inhibitions against aggression, and habit strength. The situational factors are the facilitating stimuli and the impeding stimuli in the potential aggressor's immediate environment.

People who bear the label of "psychopath" tend to fit the personal characteristics delineated by the Algebra of Aggression theory quite well. Furthermore, they tend to perceive potentially neutral situations as more threatening than they actually are (Blackburn & Lee-Evans, 1985). Theoretically, psychopaths would seem to be more prone to aggressive behavior than others. The research linking psychopathy and violence is inconclusive, however.

One reason that has been postulated for the conflicting findings is that the characteristics associated with psychopathy may facilitate violent behavior, however psychopathy alone may not be enough to override an individual's inhibitions against violence and the impeding stimuli. It is possible that

psychopathy in combination with another potentially violence-facilitating variable, such as low IQ, may cause a temporary shift in the balance of the Algebra of Aggression equation long enough for violence to occur. Indeed, studies which have investigated the relationship between violence, psychopathy, and a mediating variable such as low IQ have obtained more consistent results than those using psychopathy alone.

The section that follows is a review of the literature addressing the relationship between psychopathy and violent criminal behavior. Studies which indicate that this relationship is mediated by another variable will also be outlined. Finally, a study that tested the relationship between psychopathy, the mediating variable of IQ, and violent crime will be reported.

CHAPTER 2

LITERATURE REVIEW

Psychopathy and Violence

To begin adequately a discussion of the correlation between psychopathy, mediating variables and violence, a solid link between psychopathy and violence must first be established. Probably the most consistently documented findings on this relationship are presented in the works of Hare (eg., 1981, 1984, 1988). Hare studied physiological responses in psychopathic and nonpsychopathic prisoners. In all of Hare's studies, the Psychopathy Checklist (PCL) (Hare, 1980) was used to discriminate psychopathic from nonpsychopathic inmates. The PCL is a scale on which inmates are ranked according to how well their personality and behavior fit Cleckley's (1976) criteria of psychopathy.

Beginning in 1964, Hare collected somatic and personality data on male prisoners confined to a British Columbia maximum security prison. He followed these offenders after their release, and his research

utilizes both the testing and follow-up data of these prisoners.

In the first article relevant to this discourse, Hare (1981) found that psychopaths as a group had been convicted in adult court at an earlier age, spent more time in prison, were convicted of far more crimes, including violent crimes, used more aliases, and broke out of prison more often than nonpsychopaths. A second study in the same publication showed that

"compared to other inmates, the psychopaths were more likely to have been convicted of armed robbery, assault, forcible seizure and rape. They were also more likely to have used a weapon, to have been involved in fights, and to have engaged in aggressive homosexual behavior in prison" (Hare, 1981, p. 62).

In a later study, Hare & McPherson (1984) found that psychopaths had been charged and convicted of more offenses in general, and more violent offenses in particular, than nonpsychopaths. There were only two exceptions to this finding across eight categories of violent crimes. Hare hypothesized that the two exceptions, rape and murder, were due to the fact that

those acts carried low frequency of conviction rates, thus the rates of prediction error were higher for those two crimes.

In addition to their longer arrest and conviction record for violent crimes, psychopaths were judged by two independent raters using institutional file data to be significantly more violent than nonpsychopaths during their period of incarceration (Hare & McPherson, 1984). There seemed to be yet another difference between psychopaths and nonpsychopaths in their longitudinal patterns of criminal activity (Hare, McPherson & Forth, 1988). Whereas the criminal activity of the psychopaths in this study, as measured by criminal convictions, reached a peak at age 30 - 35, and dropped sharply after age 35, the nonpsychopaths' pattern of criminal behavior declined gradually after age 20.

Thus, in summary of Hare's research, there seems to be both a qualitative and a quantitative difference between psychopaths and nonpsychopaths in the number and pattern of crimes committed. Psychopaths tend to escalate their criminal activity until about age 35, at which time there is a sharp drop-off in number of crimes committed, whereas nonpsychopaths decrease their

involvement in criminal behavior after approximately age 20. Consequently, psychopaths tend to commit more crimes, including more violent crimes, than do nonpsychopaths.

Although it must be stressed that not all violent people are psychopaths, Hare's research has identified a subset of violent individuals, criminal psychopaths, who have consistently committed more violent crimes than other groups of people. The next logical step would be see if a more refined predictor of violence could be obtained by adding other variables to the typology.

Thus, the question currently being asked by researchers is, "Are certain types of psychopaths more violent than others?" or, in more readily testable terms, "What factors, when combined with psychopathy, increase the accuracy of prediction and/or assessment of violent criminal behavior?"

Psychopathic Subtypes and Violence

The "4-3 MMPI Profile"

One of the first research ventures that looked at psychopathy, violence and other variables was a series of studies addressing the correlation between

elevations on Scale 3 (the Hy Scale) and Scale 4 (the Pd Scale) of the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway & McKinley, 1940) and violent behavior. People who elevate Scale 3 are described as immature, egocentric, demanding and manipulative; whereas elevations on Scale 4, often used as a measure of psychopathy, are commonly associated with antisocial "acting-out" behaviors, poor family life and conflicts with authority (Greene, 1980). Early violence prediction with the "4-3 Profile" was promising (Davis & Sikes, 1971; Persons & Marks, 1971), however later research did not support the original findings (Gynther, Altman & Warbin, 1973; Buck & Graham, 1978).

Although the findings concerning the "4-3 Profile" are equivocal, that does not necessarily mean that the relationship between violence and psychopathy is equivocal. There is some evidence that Scale 4 of the MMPI may not be a very reliable or universally appropriate instrument in the assessment of psychopathy. Scale 4 tends to be a rather global test of general deviance and maladjustment to social institutions, since family problems, authority conflicts, and socially undesirable conduct tend to

elevate Scale 4, as well as psychopathy (Hawk & Peterson, 1974). It is not surprising, therefore, that elevations on Scale 4 correlate only modestly with other clinical-behavioral measures of psychopathy, such as the DSM-III criteria for the disorder (Hare, 1985).

Thus, Scale 4 (Pd) used in isolation may not reliably differentiate psychopathy from other socially unacceptable behaviors. All subsequent studies described in this paper use a multimodal definition of psychopathy, or use multiple self-report measures in combination with the MMPI's Scale 4 as the operational definition of psychopathy (e.g., Heilbrun, 1979).

Psychopathy and Social Withdrawal

Using both MMPI self-report data and information obtained from trained staff persons, Blackburn has proposed another variable that may interact with psychopathy in the assessment of violent behavior, social withdrawal (Blackburn, 1975). Blackburn found that 80% of the subjects in his (1975) sample could be classified according to four MMPI profile types, among which the primary differences were on aspects of psychopathy and social anxiety/withdrawal.

When the psychopathic subjects were separated into low social withdrawal (extroverted) and high social

withdrawal (introverted) groups, Blackburn discovered that the extroverted psychopaths had committed more aggressive and destructive offenses in their criminal careers than the introverted psychopaths or nonpsychopaths. For the sake of brevity, he renamed psychopaths who scored low on measures of social withdrawal, "primary psychopaths." The highly socially withdrawn psychopathic group he called, "secondary psychopaths."

Evidence that social withdrawal is a useful construct in understanding psychopathy was strengthened by Blackburn's (1979a) factor analysis study of Special Hospitals' Assessment of Personality and Socialization (SHAPS) personality test data. The content of the SHAPS consists of two regularly scored MMPI scales, the L Scale and Scale 4 (Pd), as well as eight special scales of the MMPI. Also included in the SHAPS are scales from the Buss-Durkee Hostility Inventory, and Quay's psychopathy scale.

Blackburn's experiment isolated two higher order factors identified as psychopathy or antisocial aggression versus conformity, and social withdrawal versus sociability. The factors gleaned from the self-report paper and pencil measures were significantly

correlated with nurses' behavioral ratings of aggression and social withdrawal, which lends more support to the existence of such traits in an observable form.

Subsequently, Blackburn compared the cortical and autonomic arousal in primary and secondary psychopaths (1979b). A contemporary theory of psychopathy suggests that psychopaths require a higher level of external arousal, which prompts them to engage in risk-taking and thrill-seeking behaviors to raise their level of arousal to an optimum level, that is, to the resting state of nonpsychopaths (Quay, 1965).

In Blackburn's study, secondary psychopaths displayed the predicted pattern of lower somatic arousal than nonpsychopaths, but primary psychopaths exhibited a higher level of arousal than either secondary psychopaths or nonpsychopaths. These results suggest that while the current theories hold for some psychopaths, there may be a distinct group, specifically primary psychopaths, for whom the theories are not adequate explanations of behavior. These findings also illustrate the value of separating psychopaths according to levels of social withdrawal.

Finally, in assessing the reactions of primary and secondary psychopaths to anger-evoking situations, Blackburn and Lee-Evans (1985) found that psychopathic subjects in general responded more intensely than nonpsychopaths to attack situations, (as compared to frustration situations). Secondary psychopaths reacted more intensely than all other groups. Secondary psychopaths also differed from primary psychopaths in reporting greater somatic arousal.

These results are noteworthy, in light of Blackburn's (1979b) previous finding that primary psychopaths are more aroused at a resting level than are secondary psychopaths. It is possible that when faced with anger-provoking situations, secondary psychopaths overreact to the point that their physiological arousal exceeds that of primary psychopaths, whose somatic state may remain relatively stable in emotionally-charged situations.

Overall, Blackburn's research does seem to point to the utility of dividing psychopaths into high and low social withdrawal groups, since there are observable self-report, behavioral and physiological differences between the two psychopathic subsets. Although the existence of these two subgroups of psychopaths has

been adequately demonstrated, the relationship between psychopathy, social withdrawal and criminal violence has only been addressed in one study (Blackburn, 1975). More research is needed to see if this relationship can be replicated in further studies.

Psychopathy and Low Intelligence

Probably the most promising variable that has been systematically linked with psychopathy in the study of violence is low intelligence (Heilbrun, 1979, 1982, 1985, 1990). In 1979, Heilbrun grouped incarcerated white male prisoners according to their scores on indices of psychopathy and intelligence, and investigated how combinations of the two variables were related to violent behavior.

Heilbrun defined psychopathy as the subjects' T-score on the Pd scale of the MMPI minus their T-score on the So scale of the CPI, hence, Pd - So. The two scales are subtracted from one another because the Pd and So Scales are scored so that people who exhibit high levels of psychopathic behavior obtain high scores on the Pd Scale, and people who are seen as less socialized obtain low scores on the So Scale. Thus, "increases in Pd scores and decreases in So scores indicate greater psychopathy, so that higher Pd minus

So differences point to stronger psychopathic tendencies" (Heilbrun, 1979, p. 511).

The Pd and So Scales were chosen for this measure because they tap two different, but related, dimensions of psychopathy. In Heilbrun's 1979 study, the two scales were moderately correlated (-.63) with each other. This suggests that they measure similar attributes, but that they are not identical measures of the same construct. According to Heilbrun (1979), the Pd - So combination of scales results in a more effective categorization of psychopathic and nonpsychopathic subjects than does use of either scale alone. Concerning the relationship of psychopathy and intelligence to violent behavior, Heilbrun (1979) found that

"It was the combination of unsocialized personality qualities defining the psychopath and lower intelligence that was found to be associated with violent and impulsive crime. Intelligent psychopaths were neither violence prone nor impulsive relative to nonpsychopathic prisoners..." (p. 514).

Further testing substantiated Heilbrun's claims. In a similar study, Heilbrun (1982) administered a variety of tests assessing intelligence, cognitive variables and psychopathy to black and white prisoners. The three cognitive variables assessed were self-control (of impulses), self-reinforcement and empathy. In Heilbrun's words,

"Both cognitive control of impulses and empathy require effective processing of information, and both were found to be diminished in the less intelligent criminal...The combination of poor cognitive control and insensitivity to others' feelings, associated with limited intelligence, appear in themselves to be conducive to violent behavior" (p. 553).

Thus, this study effectively identified two facets from the constellation of personality traits traditionally associated with psychopathy, poor cognitive control of impulses and low empathy, that, when in combination with low intelligence, are related to violent behavior.

In another attempt to refine A. B. Heilbrun's typology of violence, A. B. Heilbrun & M. R. Heilbrun (1985) compared his typology, based on psychopathy and intelligence, with the previously mentioned typology proposed by Blackburn (1975), relating to psychopathy and social withdrawal, in an attempt to predict violent behavior in prison and on parole. When dangerousness, or violent behavior, in prison was considered, it was found that "withdrawn, low IQ psychopaths who had been convicted of previous criminal violence" (p. 192) were the most likely to engage in violent acts while still incarcerated, and that all variables specified in the equation significantly increased the model's predictive value.

When predicting violence on parole, it was found that the descriptors, "low IQ psychopaths," and "low IQ withdrawn psychopaths with a history of violence," were useful predictors of future violence in the community. When IQ was not considered, withdrawn psychopaths were not found to be more violent than nonwithdrawn psychopaths on parole measures. According to Heilbrun, "Withdrawal in psychopaths contributed to predictions of dangerousness within one situational context (prison confinement) but

not within another (community on parole). However, it is also important to note that the same situational specificity did not prevail when IQ served as the moderator for predicting dangerousness in psychopaths... The low IQ psychopath appears to be an exception to the dictum of situational specificity. He has been found to be dangerous in all three situations" (p. 194).

Heilbrun's (1990) most recent study was designed to see if the low IQ psychopathic index could be used to discriminate differing levels of severity of violent crime. In this study, violence was divided into three levels of severity: severe (murder), intermediate severity (robbery and rape), and least severe (assault, child molestation and manslaughter). Offenders were assigned to violence severity groups based on the highest severity level of the crimes for which they were incarcerated at the time of the study.

The low IQ by psychopathy interaction was found to be stronger for the group of offenders committing the most severe crimes than for the group committing the least severe offenses. Also, the relationship between

low IQ, psychopathy and violence rose monotonically with the severity of the crime. Thus, the results of this study suggest that low IQ and psychopathy are associated not only with violent crime, but that the relationship between low IQ, psychopathy and violence increases with the severity of the violence.

To summarize this section, Heilbrun's research has established low IQ psychopaths to be an exceptionally likely group to engage in violent behavior. Heilbrun claims that the interaction of low IQ and psychopathic tendencies is associated with violent crime, and that neither variable alone is an adequate predictor.

Partial Support for the Low IQ Psychopathic Model

Full support has not been achieved for Heilbrun's low IQ psychopathic model of violent crime. However, no study to date has adequately replicated Heilbrun's studies.

The results of a study by Holland, Beckett and Levi (1981) are somewhat supportive of the relationship between low IQ, psychopathy, and violent crime. The (1981) study by Holland et. al. showed that psychopathy and low intelligence were both independently correlated with subjects' total number of violent convictions, but

not with the violence of the conviction for which they were currently incarcerated.

Holland et. al.'s (1981) study is not an exact replication of Heilbrun's work because Holland et. al. (1981) employed a different measure of psychopathy than did the Heilbrun studies. Holland et. al. (1981) defined psychopathy in two ways. Psychopathy was defined as the sum of the scores on Scales F, 4 (Pd) and 9 (Ma) of the MMPI (Huesmann, Lefkowitz & Fron, 1978), and as Scale 4 (Pd) of the MMPI alone. The customary K-correction was performed on Scale 4 in each measure, and both measures obtained the aforementioned results. In Heilbrun's studies, psychopathy was defined as the subjects' score on the Pd - So scale. It is possible that the differences in the operational definition of psychopathy could have been partially responsible for the different results obtained by Heilbrun (1979) and Holland et. al. (1981).

A study by Hare & McPherson (1984) found that psychopathy, but not IQ, was associated with violent crime. Using Hare's Psychopathy Checklist (Hare, 1980) as the definition of psychopathy, Hare and McPherson (1984) found the relationship between psychopathy and violence to be unaffected by IQ, with one exception.

Weapon use was influenced by the subjects' IQ level, however in the opposite direction predicted by Heilbrun (1979). Psychopathic subjects with high IQ's were more likely than low IQ psychopaths or nonpsychopaths to have employed a weapon while committing a crime.

The presence of a weapon in the hand of the assailant sets up an very unequal power balance between victim and assailant. It is possible that when an assailant possesses a weapon, the victim puts up less resistance to the assailant's demands, due to fear of injury, death, etc (Cook, 1982). Consequently, it is possible that the high IQ psychopaths who carried weapons did not need to resort to physical violence to accomplish their goals as frequently as did the unarmed low IQ psychopaths, who likely encountered more resistance from their victims.

Apart from the weapons distinction, this study lends some support to the notion that psychopathy is correlated with violent crime. It cannot, however, be considered a good replication of the Heilbrun studies, because it, like the Holland, Beckett and Levi (1981) study, did not employ the same definition of psychopathy as did Heilbrun. Thus, neither the Holland

et. al. (1981) study nor the Hare & McPherson study (1984) are good empirical tests of Heilbrun's low IQ psychopathic model of violent crime, because neither employ Heilbrun's definition of psychopathy.

It is possible that Heilbrun's low IQ psychopathic model is correlated with violent crime only when the Pd - So psychopathy measure is used. It is also possible that Heilbrun's model cannot be generalized beyond his sample of male inmates confined to a Georgia state prison. Another limitation of Heilbrun's research is that the observed relationship between low intelligence, psychopathy and violent crime was originally derived on an all-white sample. Although Heilbrun's subsequent studies were conducted using combined groups of white and black subjects, it is still unclear if the low IQ psychopathic model of violent crime holds differently for blacks than for whites.

Current Study

The current study is a replication and an extension of Heilbrun's work. It was important for Heilbrun's studies to be replicated using his definition of psychopathy, because it is possible that the previous failures to replicate his results were due, in part, to

use of a different definition of psychopathy. It is also important for Heilbrun's model to be extended, because several questions regarding the generalizability of his model remain unanswered.

Violence Variables

In addition to addressing the psychopathy definition discrepancy, this study attempted to clarify the generalizability of Heilbrun's model regarding type and frequency of violence. As was emphasized in the introduction, it is difficult to reach a consensus definition of violent behavior. Instead of using only the offense for which the offenders were incarcerated at the time of data collection, the entry offense, as the criterion for violence, this study also looked at violence over a twelve to fourteen year span of the offenders' criminal careers, as obtained from official arrest records, or "rap sheets."

In Heilbrun & Heilbrun's 1985 study, aggression in prison and on parole was defined as the criteria for violence, and the same results were obtained as when entry offense was used (Heilbrun, 1979; Heilbrun, 1982). This author believes that criminal career violence data should provide a better measure of an offender's capacity for violent criminal behavior than

either the entry offense or records of subsequent violence, such as aggression in prison or on parole.

If the criterion for being included in the "violent" group is violence of entry offense, those who had previously been charged with a violent crime, but who were serving time for a nonviolent offense at the time of the study, would not be included in the group of "violent" offenders. Also, those who would subsequently commit a violent crime would not be included in the "violent" group, either.

If the criterion for violence is violent behavior committed subsequent to incarceration, those who had previously committed violent crimes would not be included in the group of "violent" offenders. Thus, information about the violence of an individual is lost to the degree to which the sampling of his violent behavior is limited by time constraints. This study attempted to widen the window of time in which the subjects' violent behavior was observed, to achieve a more reliable assessment of their violent criminal behavior.

Another way in which the violence measure was modified in this study is that violence was divided into categories, or types, of violence. Buss (1961)

distinguished between angry aggression, in which the intent is to injure the victim, and instrumental aggression, which is used in the process of achieving another goal, such as money or status.

Since the motivating factors are different for the two types of crimes, it is possible that there are differences between the people who commit these two types of aggressive acts, and that low IQ and psychopathy may contribute more to the commission of one type of aggression, or violence, than the other. (The term violence will be used because the actions regarded as "violent" in this study are of a severe and illegal nature, whereas included in the broader category of aggression are actions which are legal and pose much less harm to the victim.)

Although Heilbrun (1990) found that the relationship between low IQ, psychopathy and violent crime increased as the severity of violence increased, no research has been conducted to test how well the low IQ psychopathic model of violent crime differentially predicts angry as opposed to instrumental violence.

Angry crimes, such as assaults, are often planned less well than instrumentally violent crimes, such as bank robberies. In Heilbrun's 1982 study, low IQ

psychopaths scored higher than other groups on indices of impulsivity. If angrily violent crimes are planned less well than other types of crimes, and if less intelligent psychopaths are more likely to plan their activities impulsively, than it would follow that low IQ psychopaths would be over-represented in the group of people committing angrily violent crimes. However, if low IQ psychopaths were found to commit more angrily violent crimes, further testing would need to be done to discover whether this trend is primarily due to low IQ, or to low IQ psychopaths' tendency to be more impulsive than other groups.

Type of Correctional Institution

Concerning generalizability of Heilbrun's model to subject variables, it is possible that Heilbrun's model does not extend beyond his sample of Georgia state prisoners. Subjects in the present study were inmates confined to a federal correctional institution instead of inmates of state prisons who were the subjects of Heilbrun's studies.

It is possible that the low-IQ psychopathic model of violent crime holds differently for offenders incarcerated for federal crimes, than for Heilbrun's subjects, who were imprisoned for state offenses.

State offenses are traditionally of a more violent nature than federally-punished offenses (Flanagan & Jamieson, 1987), thus it could be argued that state prisoners, as used in Heilbrun's sample, are more violent as a group than are federal prisoners, the subjects of this study. However, the dependent variable in this study was a twelve to fourteen year sampling of both state and federal offenses, thus the potential differences between this study's population and Heilbrun's subjects were probably minimized.

Race of Subject

In addition to the type of correctional system to which the subjects were confined, another subject variable that had not previously been studied in connection with Heilbrun's model is the race of the subjects. With regard to Heilbrun's model, subjects had either been tested in all white groups (Heilbrun, 1979) or mixed racial groups (Heilbrun, 1982, 1990; Heilbrun & Heilbrun, 1985), but no study to date had looked at race as a potential modifying variable.

Racial differences have been observed on two of the measures used in creating the typology, the Revised Beta Examination and the Pd Scale of the MMPI. It has been shown that in both adult and adolescent

psychiatric samples, lower test scores on the Revised Beta were associated with black race membership (Dudley, Williams & Overall, 1971; Dudley, Mason, Rhoton, 1973).

Evidence for racial differences on the MMPI Pd scale are mixed. In his recent review of the literature on ethnicity and MMPI performance, Greene (1987) found that in normal samples blacks' Pd scores were consistently higher than those of whites. However, in specialized populations, the results were equivocal.

Of the studies that reported racial differences in prison and psychiatric samples, half found that whites scored higher than blacks on the Pd Scale, and half found that blacks scored higher than whites. However, in substance abuse and medical/welfare samples, white subjects were found to score consistently higher on the Pd Scale. One possible explanation for this is that in order for whites to come to the attention of authorities, they must be quite a bit more psychopathic than those who do not.

One of Greene's (1987) criticisms of the literature on potential MMPI racial differences is that when racial differences are observed, it is often in the

absence of any empirical correlates of the variable being measured. Consequently, when racial differences are noted, it is unclear whether the differences are due to actual differences in the occurrence of the trait in the general population, or if the differences are the result of testing bias.

Concerning the Pd Scale, the only study that looked at empirical correlates (Elion & Megargee, 1975) found that although the Pd scale reliably discriminated levels of social deviance among black males, black subjects scored approximately 5 T-score points higher than white norms. Overall, the research is somewhat conflicting, but there is some evidence that blacks obtain higher scores on the Pd Scale of the MMPI.

Racial differences on the Revised Beta and the MMPI Pd Scale have important implications for the generalizability of the low IQ psychopathic model of violent crime to blacks. If blacks score lower on the Revised Beta and higher on the Pd Scale than whites, then blacks would be over-represented in the low IQ psychopathic group due to testing bias. This would reduce the discriminative validity of the model, and thus render it less effective in predicting violent behavior in black samples.

In the current sample, blacks were found to score significantly differently than whites on the psychopathy measure, the Pd - So Scale. Based on the racial differences literature, it would have been predicted that the difference was probably due to blacks scoring higher, or more deviantly, on the Pd Scale. However, the racial difference in scores was due to blacks scoring less deviantly on the So Scale, the only scale in this study on which significant racial differences have not been observed in the literature ($t=-3.75$, $p<.001$).

When the Pd and So Scales were combined to form the psychopathy measure, Pd - So, there was an overall difference of 5 T-score points between races, with blacks scoring less deviantly than whites ($t=3.35$, $p<.001$).

Since blacks and whites scored significantly differently on the psychopathy measure in this study, Pd - So, it is possible that the low IQ psychopathic model of violent crime holds differently for blacks than for whites. Thus, the data for blacks and whites were analyzed separately in an effort to determine if low IQ and psychopathy are useful correlates of violent crime for black subjects.

In summary, the purpose of this study was to replicate and extend Heilbrun's (1979) study. Specifically, it was designed to examine the finding that low IQ psychopaths committed more violent crimes than other groups of subjects when the criteria for psychopathy was Heilbrun's Pd - So measure. Also, Heilbrun's low IQ psychopathic model was tested across the violence variables of type of violence, and frequency of violence, to see if it could be generalized to each. Finally, it was seen if the model could be generalized across the subject variables of type of correctional institution and race of subject.

CHAPTER 3

METHOD

Subjects

The subjects for this study were taken from a sample of 1345 male youthful offenders who were consecutively admitted to the Federal Correctional Institution (F.C.I.) Tallahassee, FL, between the dates of November 3, 1970 and November 2, 1972, to serve sentences of at least 90 days in duration. This population was composed of 64% whites, 35% blacks and 1% people of American Indian or Oriental descent, with a mean educational attainment of 9.85 years. Ninety-nine percent of the subjects were born between 1944 and 1953, with the modal age at the time of data collection being 22.5.

According to the Bureau of Prisons data, the average age at first arrest for these subjects was 16.8, and the average number of arrests prior to commitment to the F.C.I., Tallahassee was 7.3. The modal sentence served was a zero to six year indeterminate sentence ("zip-six") under the Youth Corrections Act, of which most inmates served 15.5

months (Elion & Megargee, 1979). The offenses for which the subjects were convicted were primarily crimes against property, with the modal offense being auto theft.

The offenses for which the subjects were sentenced to F.C.I., Tallahassee between November 3, 1970 and November 2, 1972 were as follows: 44.2% were theft-related crimes, 22.2% of the convictions were for possession, sale or transportation of contraband, i.e., drugs or weapons, 18.6% were crimes against the criminal justice system, for example, violation of parole, 9.2% were violent offenses, typically bank robbery, 4.2% were crimes against the government, most frequently draft or tax evasion, and 1.6% of the convictions were for a variety of other crimes (Carbonell, Megargee, Moorhead, 1984).

Within the first month of the subjects' admissions to F.C.I., extensive psychological evaluations were compiled consisting of personality, ability, achievement and interest measures. The tests of interest to the present study are the MMPI, which was completed by 1214 subjects, the CPI, which was completed by 1081 subjects, and the Revised Beta

Intelligence test, which was completed by 1056 subjects.

Criminal career data was obtained on 952 inmates, in the form of official F.B.I. arrest records, or "rap sheets," which recorded the subjects' criminal activity from the time of their first arrest to the time of the collection of follow up data in 1984, approximately twelve to fourteen years for most subjects. The 604 inmates for whom rap sheets and testing data on the MMPI, CPI and Revised Beta were available were the subjects of this study.

Materials

Psychopathy

Heilbrun's index of psychopathy, the T-score of the K-corrected Pd Scale of the MMPI minus the T-score of the So Scale of the CPI (Pd - So) was the operational definition of psychopathy used in this study. The Pd - So instrument was described earlier in the literature review section. However, at this point a more thorough description of the two components of the Pd - So measure is in order.

The Pd Scale of the MMPI was designed to discriminate delinquents from nondelinquents, and is

commonly used as a measure of antisocial behavior. This empirically-derived scale was constructed by comparing the responses of delinquents to those of a nondelinquent control group on a variety of items (Hathaway & McKinley, 1940).

The delinquent criterion group was composed of 17 - 22 year old males and females diagnosed as psychopathic personality, social and amoral type. All had a long history of delinquency, and many were incarcerated at the time of testing. The nondelinquent control group was composed of two samples: married members of the original normative group used in the derivation of the complete MMPI, and a sample of college applicants (Greene, 1980). These groups responded to approximately 1,000 items and the set of items that discriminated between the two groups became the Pd Scale.

The test-retest reliability of the MMPI Pd Scale ranges from coefficients of .49 to .61 for intervals of up to one year after initial testing (Dahlstrom, Welsh & Dahlstrom, 1975). Concerning the scale's validity, the Pd Scale has been shown to make general differentiations between psychopathic and

nonpsychopathic groups (Walters, 1985; Gearing, 1979; Craddick, 1962).

The other scale used in Heilbrun's Pd - So measure of psychopathy is the Socialization (So) Scale of the CPI. The So Scale was designed to assess Gough's role-taking theory of psychopathy. Gough believed that psychopaths were deficient in the ability to take on the role of others, or to look at one's self from another's point of view (Doren, 1987). According to Gough, psychopaths are aware of societal rules and regulations intellectually, but they do not seem to understand or internalize them (Gough, 1948).

Thus, the So Scale of the CPI measures the extent to which societal values are internalized by individuals and "locates individuals and groups along a continuum of asocial to social behavior" (Gough, 1965, p. 296). Psychopathic persons, by nature, do not evidence internalization of society's values, and thus tend to score on the low, or asocial, end of this scale. The So Scale was constructed by comparing the responses of delinquent to nondelinquent groups of male and female adolescents on a variety of items. A wide variety of subjects formed the criterion groups: male and female adolescents from a small Minnesota town;

male and female adolescents from two Minneapolis schools; male and female adolescents pegged as behavior problems in these same schools; male and female inmates of Minnesota reformatories; and young male delinquents.

Test-retest reliability coefficients of the So Scale range from .65 to .80 for intervals up to one year (Gough, 1957). The So scale has been shown to reliably place people on a continuum of socialization (Gough, 1960); and delinquents have been shown to consistently obtain lower scores on the So Scale, when compared to matched controls (Gough, 1965; Smith & Austrin, 1974).

Heilbrun believes that the combination of the two scales, the MMPI Pd Scale and the CPI So Scale, result in a better instrument for assessing psychopathy than does either scale alone (Heilbrun, 1979). Since the more psychopathic subjects score higher on the Pd Scale, and lower on the So Scale, the two scales were subtracted, and this subtractive index, Pd - So, was the measure of psychopathy used in this study.

In order for the Pd - So instrument to be a valid measure of psychopathy, it must reliably differentiate people with these characteristics from those without

such attributes. The personality characteristics associated with high scores on the Pd Scale and low scores on the So Scale will now be outlined.

People who score high on the Pd Scale are often described as socially outgoing, and they often make a good first impression on others. However, they have little emotional depth, and consequently, their social relationships tend to be shallow and somewhat manipulative. They rarely develop strong loyalties of any kind. High Pd scorers have also been characterized as egocentric and narcissistic. Not surprisingly, they often have difficulty seeing themselves from another's viewpoint.

High Pd scorers are seen by others as irresponsible, unreliable, unpredictable and impulsive. They seem unable (or unwilling) to learn from their mistakes, or to plan ahead, since the consequences of their actions are of little concern to them. They are rarely diagnosed as having a psychiatric disorder (Greene 1980; Webb, McNamara & Rodgers, 1986).

People who obtain low scores on the So Scale tend to oppose a great deal of society's norms, and probably defy these norms with some degree of regularity. They can be deceitful, self-serving, and distrustful of

others, which, in turn, leads them to become more isolated from society at large (Gough, 1957).

Thus, people obtaining a high score on the Pd Scale and a low score on the So Scale display many of the personality traits commonly thought to be associated with psychopathy. Comparing this study's operational definition of psychopathy, Heilbrun's Pd - So Scale, with its theoretical definition of psychopathy, Cleckley's (1976) 16 characteristics of the psychopath, only two of Cleckley's (1976) criteria are not addressed by either the Pd or the So Scale. These criteria are absence of "nervousness" or psychoneurotic manifestations, and suicide attempts that are rarely carried out. Due to the strong degree of similarity between the characteristics included in Cleckley's formulation of the psychopathic personality and those tapped by the Pd - So scale, the Pd - So scale is believed to be a valid operational definition of Cleckley's concept of psychopathy.

Intelligence

Intelligence was operationalized as the subjects' scores on the Revised Beta Examination (Kellogg & Morton, 1957). The Revised Beta is a nonverbal group-administered test that was designed to measure general

intellectual ability among people suspected of literacy difficulties (Mitchell, 1985). The restandardization sample of the Revised Beta was comprised of 1,225 white male adult prisoners from a Lewisburg, Pennsylvania federal penitentiary. The sample was stratified to reflect the 1940 U.S. Census norms for white males, with respect to education and socioeconomic status.

Concerning the reliability of the Revised Beta, the test-retest coefficient was .84 when the test was readministered within a three-week interval.

Correcting for range restriction, the correlation reached a value of .91 (Mitchell, 1985). The Revised Beta IQ score has been shown to be highly correlated with WAIS IQ scores (OBannon & Rickard, 1982; Hubble, 1978; Libb & Coleman, 1971; Lindner & Gurvitz, 1946), with correlations between the Revised Beta and WAIS Full Scale IQ scores reaching .77, .63, .83 and .92, respectively. Libb & Coleman (1971) noted, however, that the Revised Beta overestimated IQ in the retarded group.

Violence

An offender was defined as violent if he had been arrested on at least one angry or instrumentally violent charge in his criminal career. Angry violent

charges are defined as acts in which the goal is to injure the victim in some way, while instrumentally violent charges are acts in which violence is inflicted on another in the process of reaching another goal. An offense was determined to be violent if it appeared on Megargee's (1982) comprehensive list of violent N.C.I.C. offenses. This list appears in Appendix A.

Procedure

Testing Procedures

This study and the data used in this study are part of a larger investigation into the early prediction of future career criminals (Megargee, Hokanson & Spielberger, 1971; Carbonell & Megargee, 1984).

All subjects underwent a routine psychological evaluation within the first month of their admission to F.C.I., Tallahassee. This evaluation assessed the subjects' performance on ability, interest, achievement and personality measures, including the Revised Beta Intelligence Test, the Minnesota Multiphasic Personality Inventory (MMPI), and the California Psychological Inventory (CPI).

The group form of the intelligence test used in this study, the Revised Beta Intelligence Test, was

administered within the first month of testing procedures.

The personality measures, the MMPI and CPI, were also given within this time period. The 566-item group form of the MMPI was administered to the inmates within the first two weeks after their admission to F.C.I.. Hispanic inmates were allowed to take the Spanish version of the MMPI, and a taped version of the test was played for those suspected of reading difficulties.

The CPI was given on the Thursday of the week after the MMPI testing. Since the items of the CPI are so similar in content to those on the MMPI, the experimenters decided that a relatively long interval between testings would minimize practice effects, and would likely increase motivation for participation among the inmates.

Once the personality test data were collected, the customary MMPI K-corrections (Dahlstrom, Welsh & Dahlstrom, 1975) were performed, and the scores were converted to T-scores using adult male norms. The next step, then, was to examine the testing profiles for nonresponsive or random response patterns. MMPI profiles were declared invalid if the F Scale T-score was found to be greater than 100, or if the T-score of

the Qu Scale was greater than 110. CPI profiles were declared invalid if the Communality (Cm) T-score was less than 30. Out of 1,214 completed MMPI protocols and 1,081 completed CPI protocols, 38 MMPI and 242 CPI profiles were deemed invalid for the above reasons.

Obtainment of Criminal Career Data

An extensive follow-up of the total 1345-inmate sample was conducted by Carbonell & Megargee in 1984, as part of the investigation into identifying future career criminals. Data on the subjects' criminal careers, in the form of F.B.I. fingerprint arrest records, or rap sheets, were obtained on 71% of the total cohort, or 952 subjects.

The F.B.I. provided rap sheets based on the subjects' F.B.I. numbers. Rap sheets were obtained via this method on 930 of the 1018 subjects for whom F.B.I. numbers were available, or on 91% of the subjects searched for by this method. For subjects for whom F.B.I. numbers were not available, the rap sheets were traced by their names and Bureau of Prisons (B.O.P.) identifying numbers. This was a more time-consuming and painstaking endeavor, consequently only 22 of the 327 searched, or 7% of the rap sheets traced by this method were located.

Preliminary analyses compared subjects with rap sheet follow-up data to those without such data on demographic variables. It was found that the only difference between the two groups was that the subjects with follow-up data had served significantly more time on the original F.C.I., Tallahassee sentence than those without (Megargee & Carbonell, 1987).

This suggests that the follow-up sample consisted of the more serious offenders in the original cohort. This is consistent with the fact that follow-up data was obtained on most of the easily retrieved cases that had F.B.I. numbers, but such information was not retrieved on most of the more difficult-to-locate cases without F.B.I. numbers. One would suppose F.B.I. numbers would be more systematically recorded on more serious offenders, such as violent offenders, than on the less serious, nonviolent criminals (Megargee & Carbonell, 1987). Thus, this bias is not expected to adversely influence this study of violent crime.

Coding of Violent Offenses

An offender was considered to be violent if he had committed at least one violent offense in his criminal career. The violent offenses, which were obtained directly from F.B.I. arrest records, or rap sheets,

were coded along several dimensions, specifically type of violence committed, number of violent offenses, and whether or not a violent charge resulted in a conviction.

Offenses were defined as violent based on Megargee's (1982) comprehensive list of violent N.C.I.C. offenses. Offenses were coded as angrily violent, instrumentally violent, potentially violent or nonviolent according to the following system:

- 1) Angry violence. An arrest for a crime such as homicide, rape, kidnapping, etc. in which the apparent motive is to inflict injury on the victim.
- 2) Instrumental violence. An arrest for instrumental violence in which force or the threat of force is employed as a means for some other end; i.e. robbery, resisting arrest with force, forcible escape, etc.
- 3) Potential violence. An arrest for an offense that is "potentially violent," such as possession of a bomb, threatening a public official, or carrying a concealed weapon.
- 4) Nonviolent. None of the above offenses. (Megargee & Carbonell, 1987).

Two undergraduate assistants and one graduate student participated in the coding of violent offenses. Three roles were thus assigned, that of Rater 1, Rater 2, and Mediator. A system of rating was implemented in which three rating groups were established, Groups A, B and C, wherein each coder held a different position, Rater 1, Rater 2 or Mediator, so that the chores of each role were equally distributed among the coders.

Before the actual coding of the violence data began, the raters/mediators were shown how to score the rating sheets, and they practiced rating seventy randomly selected rap sheets on the previously mentioned criteria (type of violence committed, number of violent offenses, and whether or not a violent charge led to a conviction).

During the practice proceedings, the raters/mediators were able to discuss their ratings with the other raters/mediators, as well as their reasons for deciding to rate an item a certain way. The purpose for these pilot ratings was to assure that the raters/mediators received adequate and uniform training, and to assure that their interrater agreement reached an acceptable level of accuracy before beginning the coding process. After 70 practice

ratings, the coders achieved an overall interrater reliability coefficient of .80 for violent and nonviolent offenses combined.

The pilot rating forms were not used in the data analysis. However, the seventy rap sheets used in the pilot ratings were returned to their appropriate places in the files, to be included later in the actual coding process.

After the seventy practice trials, the raters/mediators began the coding process. The three roles of Rater 1, Rater 2 and Mediator were outlined as follows: Rater 1 coded the violent offenses on 10 - 20 rap sheets, and then gave the stack of rap sheets to Rater 2; but passed his/her rating sheets to the Mediator, so that Rater 2 was not aware of what Rater 1 recorded. Rater 2 independently coded the violent offenses on these same rap sheets, then gave both the rap sheets and his/her rating sheets to the Mediator. At that time, the Mediator compared the two raters' findings for each rap sheet.

A copy of the rating sheet is provided in Appendix B. The first question on the rating sheet was, "Are there any offenses which are violent or potentially violent?" If there were no violent offenses listed on

the rap sheet, then the rater simply circled the answer "No," and continued no further. If, however, there were violent or potentially violent offenses listed on the rap sheet, then the rater circled "Yes," and proceeded. After it was determined that a rap sheet contained at least one violent offense, the rater then recorded the last date of information recorded on each violent offense listed on the rap sheet, along with information concerning whether or not a conviction was reached for that offense, and a) the type of violence with which the offender was charged, and b) the type of violence (if any) included in the conviction. Nonviolent offenses were not recorded.

For each violent charge on which the raters reached 100% agreement on all indices (presence of violence, type of violence and conviction) the mediator simply copied the identical charge onto a separate rating sheet without referring to the rap sheet. For charges on which there was at least one discrepancy, the mediator compared the raters' decisions to the original rap sheet and either agreed with one or the other rater, or came to an independent decision regarding the discrepancy.

Interrater Reliability Ratings on the Coding of Violent Offenses

The first step in computing interrater reliability coefficients on the coded violence data was to determine which offenses were the sources of disagreement between raters. There were five dimensions on which the raters could have disagreed: overall presence or absence of violent offenses, number of violent offenses, type of violence for each offense, last date of information recorded on each offense, and whether or not a violent charge led to a conviction. Thus, five separate interrater reliability coefficients were reported. All reliability coefficients were computed with the simple percentage equation:

Number of Violent Offenses on which Both Raters Agreed

Total Number of Violent Offenses

First, interrater reliability coefficients on overall violence ratings were calculated. Subjects who had committed at least one violent offense were classified as violent offenders, whereas subjects who had not committed any violent offenses were classified as nonviolent. Out of 952 subjects, the raters only disagreed on the violence/nonviolence of an offender in the cases of three offenders, thus achieving an interrater reliability of 99.78%.

Next, the interrater reliability ratings on the number of violent offenses per subject were calculated. The raters agreed on the number of violent offenses committed by an offender 88.25% of the time. Regarding type of violence, the raters agreed as to whether an offense was angrily violent, instrumentally violent, or potentially violent 94.98% of the time. The raters reached agreement concerning whether or not a violent charge received a conviction in 94.39% of the cases, and they agreed on the last date of information recorded on a violent offense in 95.51% of the cases.

CHAPTER 4

RESULTS

Assignment of Subjects to Groups

Subjects were classified into groups based on their scores on psychopathy and intelligence measures.

Heilbrun's studies used 32 as the cutting score for Pd - So, which was his (1979) sample's median score on that index. Because there were significant differences between blacks and whites on Pd-So in this study, separate cutting scores were used. The cutting scores were set at the present sample's median for each race, so that those scoring at or above the median were labelled "psychopaths," and those scoring below the median were labelled "nonpsychopaths." In this study, the Pd-So cutting score for black subjects was 36, and the cutting score for white subjects was 41.

The cutting score for the intelligence measure, the Revised Beta Examination, was 101, which was this sample's median score. Blacks and whites did not score significantly differently on this measure, so the cutting score for both races was the same. Those

subjects who scored 101 or higher on the Revised Beta Examination were described as having "high IQ," and those scoring below 101 were described as having "low IQ." The mean psychopathy and intelligence scores for each race are reported in Table 1. Heilbrun's studies used his (1979) sample's median score of 106 on the IPAT Culture Free Intelligence Test as the cutting score, which is very similar to the cutting score used in this study.

Subjects were classified into groups in two ways. They were divided into high and low psychopathy groups, and ANOVA main effect analyses were performed. Subjects were then classified into high and low intelligence groups and another set of main effect analyses were performed.

Also, to test the interaction of psychopathy and IQ on violent behavior, the subjects were again divided, this time, into 4 groups: low IQ, low psychopathy; low IQ, high psychopathy; high IQ, low psychopathy; and high IQ, high psychopathy. This procedure was repeated, separating repetitively violent offenders from offenders with one violent offense, and separating angry from instrumental offenders.

Offenders were classified as violent if they had been charged with at least one N.C.I.C. designated (angry or instrumentally) violent offense. Potentially violent crimes were not included in this definition of violence, since by definition, violence had not yet occurred. Offenders were classified as angrily violent offenders if they had committed more angrily violent offenses than instrumentally violent offenses. Offenders were labelled instrumentally violent if they had committed more instrumentally violent offenses than angrily violent offenses. The number of subjects in each group can be found in Table 2.

Violence Variables

The number of violent crimes an offender committed over his criminal career was the dependent variable in this study. When computing the number of violent crimes committed, it had to be decided whether number of violent charges or number of violent convictions was a more adequate assessment of the violence of an individual.

The term, number of charges, refers to the number of times an individual has been arrested for illegal acts. Number of convictions refers to the number of

Table 1

Means and Standard Deviations of Racial Groups' Scores
on Psychopathy and Intelligence Measures

Race	<u>Pd - So</u>		<u>IQ</u>	
	Mean	S.D.	Mean	S.D.
Whites	40.35*	18.76	100.81	14.19
Blacks	35.14*	15.79	100.15	14.15

* p<.001.

Table 2

Number of Subjects in Experimental GroupsSubjects Grouped by Psychopathy Scores

Experimental Groups	Whites		Blacks	
	Psychopathy Level Low	Psychopathy Level High	Psychopathy Level Low	Psychopathy Level High
Overall	210	194	95	105
Number of Violent Charges				
One	58	39	24	31
Two or More	41	63	39	50
Type of Violent Offender				
Angry	63	59	29	42
Instrumental	24	27	23	27

Subjects Grouped by IQ Scores

Experimental Groups	Whites		Blacks	
	IQ Level Low	IQ Level High	IQ Level Low	IQ Level High
Overall	177	227	102	98
Number of Violent Charges				
One	45	52	27	28
Two or More	48	56	42	47
Type of Violent Offender				
Angry	60	62	36	35
Instrumental	20	31	20	30

Table 2--continued

Number of Subjects in Experimental GroupsSubjects Grouped by Psychopathy and IQ Scores

White Subjects	Levels of Psychopathy and IQ Scores			
	low IQ, low psy	high IQ, low psy	low IQ, high psy	high IQ, high psy
Overall	89	121	88	106
Number of Violent Charges				
One	30	28	15	24
Two or More	17	24	31	32
Type of Violent Offender				
Angry	34	29	26	33
Instrumental	8	16	12	15

Black Subjects	Levels of Psychopathy and IQ Scores			
	low IQ, low psy	high IQ, low psy	low IQ, high psy	high IQ, low psy
Overall	51	44	51	54
Number of Violent Charges				
One	9	15	18	13
Two or More	21	18	21	29
Type of Violent Offender				
Angry	15	14	21	21
Instrumental	8	15	12	15

times an individual has been found guilty of illegal acts. Thus, the number of charges on an offender's rap sheet is always equal to or greater than the number of convictions received.

Heilbrun's studies used the presence or absence of violence in the entry offense, or offense for which the offender was presently incarcerated, as the measure of violence. However, his studies did not have access to longitudinal data, such as the "rap sheets" used in this study, which included both the charges and convictions an offender received over a twelve to fourteen year period of time. It is believed that a twelve year sample of the criminal history of an offender is more indicative of the "true" capacity for violence of that offender than the presence or absence of violence in a single offense.

It is also believed that the number of violent charges is a more adequate assessment of the "true" violence of an offender than is the number of convictions received, for the following reasons. First, many violent crimes are never reported to the authorities. For example, it is estimated that charges are pressed in only twenty percent of all rape cases (Hyde, 1985). Also, very few violent charges ever

reach convictions. Only 56% of all murder charges and 38% of all robbery charges in the U.S. received convictions in 1989. The percentage of charges leading to convictions dropped to only 13% for aggravated assault (U.S. Department of Justice, 1989).

In addition, there is a practical reason for using charges as the measure of violence. The rap sheets from which the violence data were taken were often ambiguous as to whether or not a given charge led to a conviction. Thus, the resolution of a given charge could not always be determined.

Given that offenders charged with violent crimes are rarely convicted, and even if the subjects in this study were convicted, it was sometimes difficult to ascertain this from the data available, the number of violent charges an offender received was determined to be the most representative measure of violence for the purposes of this study. Thus, this study defined violence as the number of violent crimes with which an offender was charged, and which were subsequently recorded on his rapsheet.

Concerning the types of violent crimes that were included in the calculations, angrily violent crimes and instrumentally violent crimes were analyzed

together as the principal violence measure, since both types of acts are recognized by the N.C.I.C. as violent (Megargee, 1982). In addition, due to the differing motives behind these two types of violent crimes, angry and instrumentally violent crimes were analyzed separately as well.

Potentially violent crimes were also analyzed separately from the other types of violent crimes. Significant differences between groups were found on the number of potentially violent crimes committed, so potentially violent crimes were analyzed as a separate category from the angry and instrumentally violent crimes, since, prior to this study, there was no information on how the low IQ psychopathic model of violent crime applied to potentially violent crimes.

Statistical Analysis

The purpose of statistical analyses was to determine if there was a correlation between the independent variables, psychopathy and intelligence, and the dependent variable, number of violent charges committed. A 2 (high/low psychopathy) by 2 (high/low IQ) factorial analysis of variance (ANOVA) for unequal cell frequencies was used.

The 2 by 2 factorial ANOVA procedures outlined above were conducted separately for blacks and whites, since there were significant differences between blacks and whites on their psychopathy scores.

ANOVA procedures were also conducted separately for repetitively violent offenders and offenders who committed only one violent charge in their criminal career. It was hypothesized that the relationship between psychopathy, low IQ and violent crime would be stronger for repetitively violent offenders than for subjects charged with only one violent offense.

Offenders were also grouped according to the type of violence most frequently committed, angry or instrumental. Separate ANOVA analyses were conducted for angry and instrumentally violent offenders on all three types of violence: angry, instrumental and potential. It was hypothesized that low IQ psychopaths would be more likely to have committed the more serious types of violent charges, i.e., angry violent charges. It was also expected that the difference between low IQ psychopaths and other groups would lessen as the severity of the violence decreased, e.g., from angry to instrumental to potential violence.

The rationale for the choice of the ANOVA procedure, and the analyses conducted, was based heavily on Heilbrun's (1985) logic. Heilbrun (1985) hypothesized that low IQ psychopaths committed more violent crimes than any other group of criminals. In order to test this hypothesis, three conditions had to be satisfied. First, a significant simple effect of the moderator variable (IQ) within the psychopathic group had to be found. That is, low IQ psychopaths had to have committed significantly more violent charges than high IQ psychopaths. Second, the simple effect of IQ must not have been present in the nonpsychopathic group, i.e., high IQ nonpsychopaths must not have committed a significantly different number of violent charges than low IQ nonpsychopaths. Third, there must have been no difference between high IQ psychopaths and the combined group of (high IQ and low IQ) nonpsychopaths on number of violent charges committed.

The ANOVA procedure tested these assumptions in the following manner. First, a F-test was used to test the overall significance of the relationship. Then, the statistical significance of the psychopathy/intelligence interaction was examined. This showed whether or not the correlations between psychopathy and

number of violent charges committed, and intelligence and number of violent charges committed, were improved by adding an interaction term.

If an interaction effect appeared to be significant, three analyses were conducted to test the hypothesis that low IQ psychopaths committed a greater number of violent charges than did other groups. First, a t-test was computed to see if high IQ psychopaths differed from low IQ psychopaths on the number of violent charges committed. Based on the aforementioned rationale, it was expected that low IQ psychopaths would have committed significantly more violent charges than did high IQ psychopaths.

Another t-test was run comparing high IQ nonpsychopaths to low IQ nonpsychopaths. It was hypothesized that there would be no difference between these two groups on the number of violent charges committed. A final t-test compared (high IQ and low IQ) nonpsychopaths to high IQ psychopaths on number of violent charges committed. It was predicted that there would be no difference between these two groups.

When the interaction between psychopathy and intelligence failed to predict the number of violent charges, then the main effects of psychopathy and

intelligence were examined, to see if psychopathy alone and/or IQ alone were statistically significant correlates of violent behavior.

Race of Subject

White and black subjects were analyzed separately since the two groups scored significantly differently on the psychopathy measure, Pd - So. When ANOVA analyses were performed, psychopathy was found to be correlated with potentially violent charges in the white group ($F=5.770$, $df=1$, $p=.02$). That is, white psychopathic subjects committed more potentially violent crimes than did white nonpsychopathic subjects. No other effects were found for white subjects.

Overall, neither psychopathy, intelligence, or the interaction of the two was correlated with violent crime for black subjects. However, when the racial groups were further divided into subgroups of repetitively violent offenders vs. offenders charged with one violent crime, and angry vs. instrumentally violent offenders, interesting effects began to emerge. These results are described in detail below.

The relationship of psychopathy and violence can be found in Table 3. The relationship of IQ and violence can be found in Table 4, and the relationship of the

interaction of psychopathy and IQ to violence can be found in Table 5.

Repetitively Violent Offenders vs. Offenders Charged with One Violent Offense

When white and black subjects were divided into repetitively violent offenders and offenders who had committed only one violent offense over their criminal careers, differential effects were found in both racial groups.

The interaction of psychopathy and intelligence was shown to influence white offenders who had committed one violent offense in the following manner. A significant difference was found between the number of potentially violent charges committed by low IQ psychopaths and high IQ psychopaths ($t=2.15$, $p=.05$), in that low IQ psychopaths committed more potentially violent offenses. The reader will recall that the presence of angry and instrumentally violent offenses, and not potentially violent offenses, was used as the criteria to separate offenders into categories of repetitively violent offenders and offenders with one violent charge. Thus, it is possible for subjects in the "offenders charged with one violent offense"

category to have committed any number of potentially violent offenses.

There was no difference between the number of potentially violent offenses committed by low IQ nonpsychopaths and high IQ nonpsychopaths ($t=-1.02$, $p=.31$). When the high IQ and low IQ nonpsychopaths were combined and compared to the high IQ psychopaths, no difference was found in the number of potentially violent charges committed ($t=.01$, $p=.99$). Thus, white low IQ psychopaths accused of one violent charge were more likely to have committed potentially violent crimes than were any other group of subjects.

Psychopathy and intelligence were not effective predictors of violence for repetitively violent white offenders. This finding disproved our hypothesis that the interaction between low IQ, psychopathy and violence would be stronger for the repetitively violent group.

For black subjects, intelligence was significantly correlated with both angry and instrumentally violent charges in the repetitively violent group, but in different directions. Low IQ subjects in the repetitively violent black group were more likely to have committed angry violent crimes than were high IQ

Table 3

The Relationship of Psychopathy and Violence

White Subjects

Number of Violent Charges	Level of Psychopathy			
	Low		High	
	Mean	S.D.	Mean	S.D.
total	.85	1.34	1.06	1.35
angry	.60	1.16	.69	1.04
instrumental	.25	.59	.37	.77
potential	.23*	.74	.41*	.74
Offenders Charged with One Violent Offense				
total	1.00	.00	1.00	.00
angry	.71	.46	.72	.46
instrumental	.29	.46	.28	.46
potential	.21	.55	.44	.75
Repetitively Violent Offenders				
total	2.93	1.71	2.64	1.21
angry	2.05	1.90	1.68	1.24
instrumental	.85	.99	.97	1.06
potential	.68	1.40	.60	.79
Angrily Violent Offenders				
total	1.79	1.61	1.92	1.30
angry	1.73	1.54	1.83	1.08
instrumental	.06	.25	.08	.34
potential	.44	.96	.61	.85
Instrumentally Violent Offenders				
total	1.54	1.06	2.07	1.36
angry	.08	.28	.30	.67
instrumental	.42	.78	1.82	.92
potential	.21	.66	.41	.64

* $p < .05$.

Table 3--continued

The Relationship of Psychopathy and Violence

Black Subjects

Number of Violent Charges	Level of Psychopathy			
	Mean	Low S.D.	High Mean	S.D.
total	1.64	1.77	1.77	1.70
angry	.92	.120	1.02	1.19
instrumental	.74	.98	.75	1.15
potential	.53	1.04	.36	.62
Offenders Charged with One Violent Offense				
total	1.00	.00	1.00	.00
angry	.58	.50	.61	.50
instrumental	.46	.51	.39	.50
potential	.50	1.25	.32	.65
Repetitively Violent Offenders				
total	3.38	1.44	3.10	1.56
angry	1.87	1.30	1.76	1.30
instrumental	1.51	1.05	1.34	1.39
potential	.67	1.03	.38	.64
Angrily Violent Offenders				
total	2.45	1.78	2.19	1.37
angry	2.07	1.28	1.98	1.16
instrumental	.38	.68	.21	.42
potential	.76	1.27	.40	.63
Instrumentally Violent Offenders				
total	2.26	1.36	2.52	2.16
angry	.44	.59	.41	.84
instrumental	1.83	.83	2.11	1.42
potential	.26	.45	.33	.73

* p<.05.

Table 4

The Relationship of IQ and Violence

White Subjects		Level of IQ			
		Mean	Low S.D.	High Mean	S.D.
Number of Violent Charges					
total	1.02	1.39	.89	1.31	
angry	.69	1.04	.60	1.15	
instrumental	.33	.78	.29	.60	
potential	.33	.82	.31	.69	
Offenders Charged with One Violent Offense					
total	1.00	.00	1.00	.00	
angry	.78	.42	.65	.48	
instrumental	.22	.42	.35	.48	
potential	.36	.71	.25	.59	
Repetitively Violent Offenders					
total	2.83	1.43	2.68	1.43	
angry	1.81	1.33	1.84	1.70	
instrumental	1.02	1.19	.84	.87	
potential	.58	1.11	.68	1.05	
Angrily Violent Offenders					
total	1.80	1.32	1.90	1.60	
angry	1.70	1.09	1.86	1.54	
instrumental	.10	.35	.05	.22	
potential	.53	.85	.52	.97	
Instrumentally Violent Offenders					
total	2.15	1.66	1.61	.84	
angry	.25	.72	.16	.37	
instrumental	1.90	1.16	1.45	.57	
potential	.25	.44	.36	.76	

* $p < .05$.

Table 4--continued

The Relationship of IQ and Violence

Black Subjects

Number of Violent Charges	Level of IQ			
	Mean	Low S.D.	High Mean	S.D.
total	1.61	1.70	1.82	1.76
angry	1.00	1.28	.94	1.10
instrumental	.61	.86	.89	1.24
potential	.52	.97	.36	.69
Offenders Charged with One Violent Offense				
total	1.00	.00	1.00	.00
angry	.48	.51	.71	.46
instrumental	.52	.51	.32	.48
potential	.52	1.25	.29	.54
Repetitively Violent Offenders				
total	3.26	1.42	3.19	1.60
angry	2.12*	1.27	1.53*	1.27
instrumental	1.14*	1.03	1.66*	1.39
potential	.55	.86	.47	.83
Angrily Violent Offenders				
total	2.58	1.64	2.00	1.39
angry	2.22	1.22	1.80	1.16
instrumental	.36	.59	.20	.47
potential	.69	1.22	.40	.55
Instrumentally Violent Offenders				
total	1.65*	1.18	2.90*	2.01
angry	.15*	.37	.60*	.86
instrumental	1.50*	.89	2.30*	1.26
potential	.35	.81	.27	.45

* $p < .05$.

Table 5

The Relationship of Psychopathy, IQ and Violence

White Subjects

Levels of Psychopathy and IQ Scores

Number of Violent Charges	low IQ, low psy		high IQ, low psy		low IQ, high psy		high IQ high psy	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
total	.90	1.25	.81	1.40	1.15	1.52	.98	1.19
angry	.67	.97	.54	1.28	.70	1.12	.68	.98
instrumental	.22	.62	.26	.57	.44	.91	.31	.62
potential	.22	.78	.24	.72	.44	.84	.39	.66
Offenders Charged with One Violent Offense								
total	1.00	.00	1.00	.00	1.00	.00	1.00	.00
angry	.77	.43	.64	.49	.80	.41	.67	.48
instrumental	.23	.43	.36	.49	.20	.41	.33	.48
potential	.13	.35	.29	.71	.80*	1.01	.21*	.42
Repetitively Violent Offenders								
total	2.94	1.44	2.92	1.91	2.77	1.45	2.50	.92
angry	2.18	1.13	1.96	2.31	1.61	1.41	1.75	1.08
instrumental	.76	1.15	.92	.88	1.16	1.21	.78	.87
potential	.82	1.59	.58	1.28	.45	.72	.75	.84
Angrily Violent Offenders								
total	1.59	1.10	2.03	2.04	2.08	1.55	1.79	1.08
angry	1.53	.96	1.97	2.01	1.92	1.23	1.76	.97
instrumental	.06	.24	.07	.26	.15	.46	.03	.17
potential	.35	.69	.55	1.21	.77	.99	.48	.71
Instrumentally Violent Offenders								
total	1.50	1.41	1.56	.89	2.58	1.73	1.67	.82
angry	.12	.35	.06	.25	.33	.89	.27	.46
instrumental	1.38	1.06	1.44	.63	2.25*	1.14	1.47*	.52
potential	.00	.00	.31	.79	.42	.52	.40	.74

p < .05.

Table 5--continued

The Relationship of Psychopathy, IQ and Violence

Black Subjects

Levels of Psychopathy and IQ Scores

Number of Violent Charges	low IQ, low psy		high IQ, low psy		low IQ, high psy		high IQ high psy	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
total	1.71	2.01	1.57	1.45	1.51	1.33	2.02	1.97
angry	1.04	1.41	.77	.89	.96	1.15	1.07	1.24
instrumental	.67	.91	.82	1.06	.55	.81	.94	1.38
potential	.67	1.18	.36	.84	.37	.69	.35	.56
Offenders Charged with One Violent Offense								
total	1.00	.00	1.00	.00	1.00	.00	1.00	.00
angry	.44	.53	.67	.49	.50	.51	.77	.44
instrumental	.56	.53	.40	.51	.50	.51	.23	.44
potential	.89	1.96	.27	.46	.33	.69	.31	.63
Repetitively Violent Offenders								
total	3.71	1.62	3.00	1.14	2.81	1.03	3.31	1.83
angry	2.33	1.35	1.33	1.03	1.90	1.18	1.66	1.40
instrumental	1.38	.97	1.67	1.14	.90	1.04	1.66	1.54
potential	.67	.91	.67	1.19	.43	.81	.34	.48
Angrily Violent Offenders								
total	3.13	1.96	1.71	1.27	2.19	1.29	2.19	1.47
angry	2.53	1.41	1.57	.94	2.00	1.05	1.95	1.28
instrumental	.60	.74	.14	.54	.19	.40	.24	.44
potential	1.07	1.67	.43	.51	.43	.68	.38	.59
Instrumentally Violent Offenders								
total	1.75	1.16	2.53	1.41	1.58	1.24	3.27	2.46
angry	.25	.46	.53	.64	.08	.29	.67	1.05
instrumental	1.50	.76	2.00	.84	1.50	1.00	2.60	1.55
potential	.25	.46	.27	.46	.42	1.00	.27	.46

p < .05.

subjects in the same group ($F=4.598$, $df=1$, $p=.04$), whereas high IQ subjects were more likely to have committed instrumentally violent crimes than were their low IQ counterparts ($F=4.262$, $df=1$, $p=.04$). No reliable effects were found for black offenders with one violent charge.

The finding that low IQ was associated with violence in the repetitively violent group, but not the group of offenders accused of one violent charge, partially supports the hypothesis that repetitively violent offenders would be better described by the low IQ by psychopathy index.

The relationship of psychopathy and violence can be found in Table 3, and the relationship of IQ and violence can be found in Table 4. The relationship of the interaction of psychopathy and IQ to violence can be found in Table 5.

Angrily Violent vs. Instrumentally Violent Offenders

When subjects were divided into angrily violent and instrumentally violent groups, again, different patterns between psychopathy, IQ and violence emerged for each race.

The reader will recall that subjects were divided into angry and instrumental offender categories based

on the type of crime which they committed most frequently. Therefore, angrily violent offenders committed primarily angrily violent crimes, however, they could have committed instrumentally violent crimes and/or potentially violent crimes, too. Instrumentally violent offenders committed more instrumentally violent crimes than angrily violent crimes, but they could have committed angrily violent and/or potentially violent crimes as well.

It was found that the interaction of low IQ and psychopathy correlated significantly with instrumentally violent charges for white, instrumentally violent subjects. Low IQ, instrumentally violent white psychopaths were charged with more instrumentally violent crimes ($t=2.21$, $p=.04$) than were high IQ white psychopaths. The difference between low IQ nonpsychopaths and high IQ nonpsychopaths on number of instrumentally violent charges was not significant, ($t=-.15$, $p=.88$), nor was the difference between high IQ psychopaths and nonpsychopaths ($t=.24$, $p=.81$). Thus, low IQ, instrumentally violent white psychopaths committed more instrumentally violent charges than did any other group of subjects.

The finding that the low IQ by psychopathy interaction was an effective descriptor of instrumentally violent offenders and not angrily violent offenders is in direct contradiction to the original hypothesis that the more "serious" offenders, angry offenders, would be best described by the model.

Whereas psychopathy and IQ were selectively predictive of violence in the white group, intelligence was consistently predictive of violence for black instrumentally violent subjects. For instrumentally violent blacks, high IQ was correlated with a greater number of violent charges overall ($F=6.52$, $df=1$, $p=.01$), angry violent charges ($F=4.75$, $df=1$, $p=.03$), and instrumentally violent charges ($F=6.53$, $df=1$, $p=.01$) than were committed by low IQ subjects. Psychopathy and intelligence were not adequate predictors of violence for angrily violent offenders, regardless of race.

This was contrary to the prediction that angrily violent offenders would be better described by the low IQ by psychopathy interaction. The finding that high IQ was closely related to violence in the instrumentally violent group was not predicted either.

The relationship of psychopathy and violence can be found in Table 3. The relationship of IQ and violence can be found in Table 4, and finally, the relationship of the interaction of psychopathy and IQ to violence can be found in Table 5.

CHAPTER 5
DISCUSSION

The present experiment was essentially a replication and extension of Heilbrun's (1979) study, in which he discovered that a subset of criminals, low IQ psychopaths, were more likely to commit violent crimes than other groups of offenders. The present study attempted to replicate his findings, and to see if his model could be improved by introducing other variables, such as race, frequency of violence, and type of violent crimes committed.

If the N.C.I.C. criteria for violent crime are used, in which only angry and instrumental crimes are classified as violent, then low IQ and psychopathy were related to violent crime in only one instance, when white, instrumentally violent offenders committed instrumentally violent crimes. This is only minimally supportive of Heilbrun's studies where the relationship of psychopathy, IQ, and violence transcended situational specificity (Heilbrun & Heilbrun, 1985).

The inclusion of potentially violent crimes slightly strengthened the link between low IQ, psychopathy and violence. It was found that white, low IQ psychopaths who were accused of one violent crime committed more potentially violent crimes than did any other group. Also, white psychopaths, regardless of IQ, committed more potentially violent crimes than did white nonpsychopaths. The above findings suggest that, in certain situations, low IQ and psychopathy are effectively associated with violent crime for white subjects.

A second look at the potentially violent data is warranted. Out of the three instances in which psychopathy was correlated with violent crime in this study, two of them involved potentially violent crime committed by white subjects. It is possible that, at least for whites, potentially violent crimes are more a function of personality characteristics (e.g., psychopathy) than of situation or of opportunity, as are angry and instrumentally violent crimes, respectively. Further research is needed to explore the link, if any, between psychopathy and potentially violent behavior.

Psychopathy was not an effective predictor of angry violence in any situation. But low IQ was a significant predictor for blacks. When angry violence was committed by black, repetitively violent offenders, low IQ adequately correlated with violence.

It is this author's opinion that the limited success of personality and intelligence tests to predict angry violence in this study is indicative of the limited success achieved by the violence prediction literature as a whole. Both less-than-successful prediction rates can be explained, at least in part, by the "crimes of passion" hypothesis (Stanton, 1969).

The crimes of passion hypothesis states that individuals who commit impulsive, violent crimes, such as angrily violent crimes, are often individuals whose self-control mechanisms are generally adequate for most situations, but who act rashly in exceptional circumstances.

Recalling Megargee's "Algebra of Aggression" theory discussed earlier, the same hypothesis, couched in Megargee's terms, could read as follows: Violent crimes are likely often committed by individuals whose inhibitions against aggression outweigh their instigations to aggression most of the time. When

It is worth noting that although angry violence was not readily predictable by the personal characteristics used in this study, instrumental violence was strongly related to personal characteristics, especially IQ, for both racial groups. In the instrumentally violent white group, low IQ psychopaths committed more instrumentally violent crimes than did all other groups, as predicted.

However, it was the high IQ, instrumentally violent, black subjects who committed more offenses overall, more angrily violent offenses, and more instrumentally offenses than lower IQ subjects. In light of these results, and the finding that high IQ repetitively violent blacks committed more instrumentally violent offenses, this author concludes that high IQ blacks were consistently associated with instrumental violence.

Interestingly, there is some evidence that high IQ is also associated with high levels of property crime (Welsh, 1987). It can be argued that, in many instances, instrumentally violent crime can be considered violent property crime, since instrumental violence is defined as violence used to gain other ends, frequently property. For example, the modal

instrumentally violent crime in this study was bank robbery, i.e., force used to obtain material wealth. There is another way in which instrumentally violent crime is similar to property crime. Both require some degree of planning and forethought prior to execution, unlike the more impulsive, angry violent crimes.

Thus, since instrumental violence seems to possess characteristics similar to both angry violence and property crimes, it may be more useful to view crime as a continuum from angry violence to instrumental violence to property offenses, than to see it in terms of the violent/nonviolent dichotomy that is currently employed. Perhaps the instrumentally violent offender could be better conceptualized as an overzealous property offender who is ready and willing to use any means necessary to obtain his goal. Perhaps it would be more instructive to study the relationship between criminals with similar ends and different means, i.e., property offenders and instrumentally violent offenders, than to group together offenders with similar means (force), but markedly different ends, such as angry and instrumentally violent offenders. Further research is necessary to address these

hypotheses about a proposed link between instrumentally violent crime and property crime.

One final question remains to be asked. Why were psychopathy and low IQ reasonable predictors of violence for whites, while high IQ emerged as the most prominent indicator of violence for blacks? First, it is possible that personality and intelligence measures designed for whites, which use predominantly white norms, are not appropriate for use with black subjects. Also plausible is the possibility that different motivations underlie criminal activity for the two races. It may well be that intelligent black males found the legal pathways to prosperity blocked, and turned instead to illegal methods to attain a level of financial success commensurate with their abilities (Merton, 1979).

In summary, these findings suggest that the relationship between intelligence, psychopathy and violent crime is strongly dependent on subject and offense characteristics, such as race, and frequency of violent offenses and type of violent offenses committed. Therefore, care should be used in generalizing the low IQ, psychopathic model of violent crime beyond the sample on which it was derived.

The results of this study partially support Heilbrun's contention that low IQ psychopaths commit more violent crimes, but only for white subjects. High IQ blacks, in this study, were more likely to have been involved in instrumental violence. Further research is necessary to substantiate the differential effects of race, and frequency and type of violence committed on Heilbrun's low IQ, psychopathic model of violent crime, and to investigate the effects of other subject- and offense-related variables on the model's ability to identify violent individuals.

APPENDIX A

OFFENSES CONSIDERED VIOLENT FROM NCIC UNIFORM OFFENSE
 CODES
 (according to E. I. Megargee)

	<u>NCIC Code</u>
	<u>Number</u>
<u>Homicide (0900)</u>	
Homicide--willful killing--family--gun	0901
Homicide--willful killing--family--(other weapon)	0902
Homicide--willful killing--nonfamily--gun	0903
Homicide--willful killing--nonfamily --(other weapon)	0904
Homicide--willful killing--public official--gun	0905
Homicide--willful killing--public official --(other weapon)	0906
Homicide--willful killing--police officer--gun	0907
Homicide--willful killing--police officer --(other weapon)	0908
Homicide--negligent manslaughter--vehicle	0909
Homicide--negligent manslaughter--(other weapon)	0910
Homicide--willful killing--gun	0911
Homicide--willful killing--(other weapon)	0912
<u>Kidnapping (1000)</u>	
Kidnap minor for ransom	1001
Kidnap adult for ransom	1002
Kidnap minor to sexually assault	1003
Kidnap adult to sexually assault	1004
Kidnap minor	1005
Kidnap adult	1006
Kidnap hostage for escape	1007
Kidnap--hijack aircraft	1009
<u>Sexual Assault (1100)</u>	
Rape--gun	1101
Rape--(other weapon)	1102
Rape--strong-arm	1103
Sex assault--sodomy--boy--gun	1104
Sex assault--sodomy--man--gun	1105

APPENDIX A--continued

OFFENSES CONSIDERED VIOLENT FROM NCIC UNIFORM OFFENSE
CODES
(according to E.I. Megargee)

	<u>NCIC Code</u>
	<u>Number</u>
<u>Sexual Assault (1100) continued</u>	
Sex assault--sodomy--girl--gun	1106
Sex assault--sodomy--woman--gun	1107
Sex assault--sodomy--boy--(other weapon)	1108
Sex assault--sodomy--man--(other weapon)	1109
Sex assault--sodomy--girl--(other weapon)	1110
Sex assault--sodomy--woman--(other weapon)	1111
Sex assault--sodomy--boy--strong-arm	1112
Sex assault--sodomy--man--strong-arm	1113
Sex assault--sodomy--girl--strong-arm	1114
Sex assault--sodomy--woman--strong-arm	1115
Sex assault--carnal abuse	1117
<u>Sovereignty (0100)</u>	
Sabotage	0104
<u>Robbery (1200)</u>	
Robbery--business--gun	1201
Robbery--business--(other weapon)	1202
Robbery--business--strong-arm	1203
Robbery--street--gun	1204
Robbery--street--(other weapon)	1205
Robbery--street--strong-arm	1206
Robbery--residence--gun	1207
Robbery--residence--(other weapon)	1208
Robbery--residence--strong-arm	1209
<u>Assault (1300)</u>	
Aggravated assault--family--gun	1301
Aggravated assault--family--(other weapon)	1302
Aggravated assault--family--strong-arm	1303
Aggravated assault--nonfamily--gun	1304
Aggravated assault--nonfamily--(other weapon)	1305
Aggravated assault--nonfamily--strong-arm	1306
Aggravated assault--public officials--gun	1307
Aggravated assault--public officials--(other weapon)	1308

APPENDIX A--continued

OFFENSES CONSIDERED VIOLENT FROM NCIC UNIFORM OFFENSE
 CODES
 (according to E. I. Megargee)

	<u>NCIC Code</u>
	<u>Number</u>
<u>Assault (1300) continued</u>	
Aggravated assault--public officials--strong-arm	1309
Aggravated assault--police officer--gun	1310
Aggravated assault--police officer--(other weapon)	1311
Aggravated assault--police officer--strong-arm	1312
Simple assault	1313
Aggravated assault--gun	1314
Aggravated assault--(other weapon)	1315
Intimidation	1316
<u>Arson (2000)</u>	
Arson--business--endangered life	2001
Arson--residence--endangered life	2002
Arson--business	2005
Arson--residence	2006
Arson--public building--endangered life	2008
Arson--public building	2009
<u>Extortion (2100)</u>	
Extort--threat injure person	2101
Extort--threat damage property	2102
<u>Damage Property (2900)</u>	
Damage property--business--with explosive	2904
Damage property--private--with explosive	2905
Damage property--public--with explosive	2906
<u>Weapon Offenses (5200)</u>	
Explosives--using	5206
Incendiary device--using	5208

APPENDIX A--continued

OFFENSES CONSIDERED VIOLENT FROM NCIC UNIFORM OFFENSE
CODES
(according to E. I. Megargee)

	<u>NCIC Code</u>
	<u>Number</u>
<u>Public Peace (5300)</u>	
Riot--inciting	5302
Riot--engaging in	5303
Riot--interfering firemen	5304
Riot--interfering officer	5305
<u>Traffic Offense (5400)</u>	
Hit and run	5401

APPENDIX B

RATING SHEET--CORRELATES OF VIOLENT BEHAVIOR

Rater _____ R1 _____ R2 _____ M _____ GROUP _____ A _____ B _____ C _____

SUBJECT NUMBER _____

Is there at least one potentially violent or violent offense? Yes No
 (Circle One)

If the answer is no, do not do any further ratings.

RATE VIOLENT OR POTENTIALLY VIOLENT CHARGES ONLY

	CHARGE (ending date) (mm/dd/yy)	CONVICTION (circle one)		VIOLENCE RATING	
		yes	no	(charge)	(conviction)
1.	_____	yes	no	PV AV IV	PV AV IV
2.	_____	yes	no	PV AV IV	PV AV IV
3.	_____	yes	no	PV AV IV	PV AV IV
4.	_____	yes	no	PV AV IV	PV AV IV
5.	_____	yes	no	PV AV IV	PV AV IV
6.	_____	yes	no	PV AV IV	PV AV IV
7.	_____	yes	no	PV AV IV	PV AV IV
8.	_____	yes	no	PV AV IV	PV AV IV
9.	_____	yes	no	PV AV IV	PV AV IV
10.	_____	yes	no	PV AV IV	PV AV IV
11.	_____	yes	no	PV AV IV	PV AV IV
12.	_____	yes	no	PV AV IV	PV AV IV
13.	_____	yes	no	PV AV IV	PV AV IV
14.	_____	yes	no	PV AV IV	PV AV IV
15.	_____	yes	no	PV AV IV	PV AV IV

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BIOGRAPHICAL SKETCH

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