Screening For Risk of Inmate Institutional Violence

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Abstract
Rates of incarceration and violent crime convictions continue to increase. These increases have also been coupled with higher rates of violent behavior within correctional institutions. Therefore, there is a growing need for efficient and reliable methods for institutions to classify risk potential for inmates and adjust security levels as needed to maintain safety. The current study gathered and evaluated existing research on actuarial (static) and clinical variables for predicting institutional violence. Results were tabulated for comparison of effect sizes. Age, race, history of violence, gang membership, active psychological disturbance, psychopathic or antisocial traits, social or personal achievement, and presence of personality disorders were the most salient and consistent predictors of institutional violence. Empirically supported predictor variables were organized into a proposed screening form designed for use by laypersons to identify inmates with potentially high risk for violence. Although race was an effective predictor variable, it was removed from consideration due to legal and ethical concerns regarding classifying inmates based on race or ethnicity. A normalized and validated version of the proposed screening guidelines could predict institutional violence at a level better than chance.

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SCREENING FOR RISK OF INMATE INSTITUTIONAL VIOLENCE

A DISSERTATION

SUBMITTED TO THE FACULTY

OF

SCHOOL OF PROFESSIONAL PSYCHOLOGY

PACIFIC UNIVERSITY

FOREST GROVE, OREGON

BY

MICHAEL PACHECO

IN PARTIAL FULFILLMENT OF THE

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ABSTRACT

Rates of incarceration and violent crime convictions continue to increase. These increases have also been coupled with higher rates of violent behavior within correctional institutions. Therefore, there is a growing need for efficient and reliable methods for institutions to classify risk potential for inmates and adjust security levels as needed to maintain safety. The current study gathered and evaluated existing research on actuarial (static) and clinical variables for predicting institutional violence. Results were tabulated for comparison of effect sizes. Age, race, history of violence, gang membership, active psychological disturbance, psychopathic or antisocial traits, social or personal achievement, and presence of personality disorders were the most salient and consistent predictors of institutional violence. Empirically supported predictor variables were organized into a proposed screening form designed for use by laypersons to identify inmates with potentially high risk for violence. Although race was an effective predictor variable, it was removed from consideration due to legal and ethical concerns regarding classifying inmates based on race or ethnicity. A normalized and validated version of the proposed screening guidelines could predict institutional violence at a level better than chance.

Keywords: Violence Risk Assessment, Incarceration, Inmate, Institution
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INTRODUCTION

Violent crime continues to be a serious problem in the United States. An estimated 1,390,695 violent crimes were committed in 2005, a 2.3% increase over 2004 (Federal Bureau of Investigation, 2005). Increasing crime rates also lead to increasing prison populations. According to the United States Department of Justice (Office of Justice Programs, 2007), the U.S. jail and prison population was over 2.19 million in 2005 and has grown an average of 3.3% annually from 1995 to 2005. Gibbons and Katzenbach (2006) estimated that there was an average daily count of 2.2 million prisoners in the United States and that a total of 13.5 million people per year spend time in jail or prison. The rapidly increasing prison population has led to inmates being housed in closer quarters. For example, the Lancaster, California, state prison opened in 1993 with a population capacity of 2,200 but, in 2007, the facility reported a population of 4,300 prisoners. Many of these prisoners reported sleeping on temporary beds due to the overcrowding (DeVoss, 2007).

The total number of violent acts that occur within detention centers such as jails is largely unknown. Camp and Gaes (2002) reported an estimated 1,343 serious assaults and 12 homicides in Bureau of Prisons (BOP) and privately operated federal prisons from August 1998 through July 1999. It was found that there were 6,477 assaults by inmates on staff in a study of correctional institutions in 35 states (Anonymous, 2006). Considering these numbers, it is possible that the total number of inmate assaults occurring annually in the country is in the tens of thousands. Additionally, Kimmett and O'Donnell (1998) conducted a survey of over 1,500 male adult and juvenile inmates in
British prisons and found that 30% of the juveniles and 19% of the adults reported that they had been assaulted at least once in the month preceding the survey. Despite the apparent frequency of inmate assaults, few studies have been conducted that have identified measures for predicting assault in prison or in prison psychiatric treatment (Young, Justice, & Erdberg, 2004). As the prevalence of violent crimes and the population of incarcerated persons increase, correctional systems must be able to manage safely a greater number of violent persons.

Considering the prevalence of violent behavior in the prison system, it is not surprising that many authors identified risk assessment as important for both clinicians who may be asked to conduct those assessments and society in general (Cooper & Werner, 1990; Gray et al., 2003). However, according to Rice (1997), the task of predicting violence is so difficult for forensic mental health and corrections practitioners that the dominant view in the early 1980s was that accurate violence prediction is impossible. An interest in identifying violence risk factors increased in the past decade (Young et al., 2004) and developing empirically validated methods for violence risk assessment have become a critical task for forensic mental health practitioners (Hill, Rogers, & Bickford, 1996).

A long-standing controversy in the field of risk assessment has been distrust in a clinician’s ability to make accurate predictions about violence (Mossman, 1994). A conceptual shift in the field from absolute dichotomous violence prediction to assessing levels of risk appears to have partially resolved this issue (Douglas, Ogloff, Nicholls, & Grant, 1999). The shift enables clinicians to share their opinions regarding dangerousness without using absolute statements that cannot be made with absolute certainty. The
clinicians can then provide decision makers with information about how likely the individual is to conduct future acts of violence. Decision makers are then able to use that information to determine warrant of further protective measures.

A more current controversy in the field is the debate between using actuarial or clinical methods to make predictions of risk of violence. Actuarial prediction involves using static variables, such as demographics or behavior history, to make predictions based on base rates of violent behavior. Clinical prediction, however, involves using professional judgment to make predictions based on information such as interviews and/or personality assessment data. Rice (1997) stated that actuarial prediction has been more accurate than unaided human judgment in virtually every situation to which these methods have been compared. However, although superiority of actuarial over clinical prediction of risk is well known, relatively few attempts have been made to create actuarial instruments for assessing risk among those with mental disorders (Monahan, 2003). According to Melton, Petrila, Poythress, and Slobogin (1997), a common criticism of purely actuarial approaches is that it does not allow for consideration of unique circumstances such as protective factors that have not been documented in the literature. Additionally, many decision-makers prefer clinical case information to statistical information when presented with both (Melton et al., 1997). A possible explanation for this could be that people in Western cultures have a preference for looking at the individual rather than statistics. The latter is often viewed as impersonal (Melton et al., 1997). Some researchers, in response to this controversy, suggested that the multi-faceted nature of violence risk requires a multi-method approach to risk assessment that would include both actuarial and clinical methods (Young, Justice, & Erdberg, 1999). Loza and
Dahliwal (2005) reported that incorporating actuarial measures has increased the accuracy of violence prediction from 40% to 53%.

Researchers identified several strategies for assessing future risk of violence through static or actuarial features. Mossman (1994) conducted a meta-analysis of risk assessment studies and reported that using past behavior is better than chance for predicting both short-term and long-term risk. Other researchers identified static risk factors such as non-Caucasian race (Young et al., 1999), male gender, previous violence, abuse in childhood, substance abuse history (Douglas et al., 1999), unmarried or divorced status, and low socioeconomic status (Young et al., 2004). Use of clinical factors for predicting future violence has also been assessed. Identified clinical risk factors include psychotic symptoms, suicidality, impulsivity, lack of community support, poor family relations, stress (Douglas et al., 1999), and neuropsychological impairment (Young et al., 1999).

Several researchers have evaluated the role of psychopathy in risk for future violence. Psychopathy has consistently been found to be an effective predictor of future violence as measured by the Hare Psychopathy Checklist (PCL; Hare, 1996), the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1996; Rice, 1997), and the Hare Psychopathy Checklist–Screening Version (PCL:SV; Hill et al., 1996). These measures are commonly used in violence assessment, although they were designed to measure psychopathy (Cooke, Michie, Hart, & Hare, 1999) rather than risk of violence specifically. Psychopathy has been used in formal risk prediction schemes. Among risk prediction schemes that use psychopathy as a risk factor are the Violence Risk Appraisal
Guide ([VRAG]; Harris, Rice, & Quinsey, 1993) and Historical, Clinical, and Risk Management Scales (HCR-20; Webster, Douglas, Eaves, and Hart, 1997).

Some measures have been designed specifically for violence risk assessment. One of these measures is the Violence Risk Appraisal Guide ([VRAG]; Harris, Rice, & Quinsey, 1993), which has been successful in predicting violent recidivism for offenders sentenced to prison or forensic hospital treatment as well as for insanity acquittees (Rice, 1997). A second measure, the HCR-20 (Webster, Douglas, Eaves, & Hart, 1997), combines both clinical and actuarial data to make predictions and has also been successful in predicting risk for violent behavior after release from civil psychiatric, forensic psychiatric, and prison facilities (Gray et al., 2003; McNiel, Gregory, Lam, Binder, & Sullivan, 2003).

More recently, researchers have begun to consider whether tools for long-term risk assessment are suitable for use to assess risk for shorter periods such as hours or days. In a study by McNiel et al. (2003), the researchers found that the most effective tools for assessing short-term risk in acute psychiatric situations were not the same as those most effective for long-term risk. They found that clinical tools appeared to be most effective for acute risk.

Several researchers have studied factors correlated with violent behavior among inmates. Ellis, Grasmick, and Gilman (1974) conducted a sociological analysis of aggressive behavior in North Carolina prisons and found that age and frequency of visits were both negatively correlated with the amount of aggressive behavior. Roske (1985) conducted an analysis of violent acts by prisoners in a federal prison in California over a 2 year period and found that a history of institutional violence, current substance use, and
the inmate’s security level were all positively correlated with violent behavior in the facility. Additionally, Roske found that inmate age and history of substance abuse were negatively correlated with violence in the facility. More recently, Lahm (2001) studied information from inmates at 30 prisons in Kentucky, Tennessee, and Ohio and found that inmate age and history of aggressive behaviors were robust predictors of violent acts. In this study, high levels of non-white inmates and facility overcrowding were also associated with increased inmate violence. Overcrowding has been identified as a correlate to inmate violence in other studies. Devaney (2003) and Brooks (2004) both looked at archival data and identified overcrowding as significantly correlated with inmate violence. Related to overcrowding, Anson and Hancock (1992) identified inmate buffer zones, or areas of personal space, as a factor in aggressive acts.

In some studies, evaluators have looked at the role of victims in the rates of violent acts in prison. Litaker (1996) did a review of medical records and found that inmates who were previously assaulted were more likely to be assaulted again. Kimmett and O'Donnell (1998) evaluated this relationship further by interviewing inmates who had been both victimized and who had victimized others. In this study, the authors found that inmates might increase their risk of assaults by acting in a manner that is perceived as disrespectful or demeaning in the prison social hierarchy. A possible confounding variable in this study was that many also reported past victimizing of others and many victimizers also reported being past victims.

Fewer researchers have evaluated clinical issues related to inmate violence. Young et al. (1999) evaluated variables associated with a history of violent behavior of inmates in prison psychiatric treatment and found, in addition to non-Caucasian race, that
psychosis, neuropsychological impairment, and psychopathy were all significantly correlated with a history of violent behavior. Wang (1998) investigated violent acts among mentally-ill male prisoners and found that, combined with ethnicity and current incarceration for a violent offense, antisocial personality style, anger, and impulsivity accounted for 94% of the variance in physical aggression. Young et al. (2004) found Borderline Personality Disorder, poor attachment, and antisocial lifestyle to be predictive of assaults in prison. Offer (1997) also found more anxious attachments among violent inmates than among those who did not engage in violent behavior.

The use of several measures for assessing risk with hospitalized patients has been evaluated. Gray et al. (2003) studied the effectiveness of the HCR-20, Brief Psychiatric Rating Scale ([BPRS]; Overall & Gorham, 1962), and the PCL-R in predicting violence among offenders in a forensic hospital setting. In the study, the authors found that both the HCR-20 and the BPRS were strong predictors of violent behavior, whereas the PCL-R was a moderate predictor. Douglas et al. (1999) evaluated the accuracy of the HCR-20 and the PCL:SV in the prediction of violence with civilly committed patients and found that both were effective predictors, with the HCR-20 being more accurate. Also, McNiel et al. (2003) found that elevated scores on the PCL:SV, HCR-20, and the McNiel-Binder Violence Screening Checklist ([VSC]; McNiel et al., 2003) were all associated with increased risk for short-term violence in inpatient psychiatric patients. It is not certain, however, how well these results generalize to a prison population.

Young et al. (2004) evaluated several measures for predicting violence with inmates in prison and in prison psychiatric treatment. The authors found that a diagnosis of Borderline Personality Disorder and the presence of an insecure attachment style was
correlated with violent behavior in both settings. However, the prison and prison psychiatric treatment groups were correlated with different measures for predicting violence. PCL-R total scores greater than or equal to 30 and the lack of either a major mental disorder or neurological impairment were associated with increased risk of violence in treatment, whereas elevated PCL-R Factor II scores were associated with the risk of violence in prison.

A few researchers have evaluated measures other than the PCL-R for predicting violence in a prison population. Rice (1997) developed and validated the VRAG on both offenders who were hospitalized and those serving sentences in prison. The VRAG was found to be equally effective in predicting violence within both populations. Quane (1986) developed the Assaultive Behavior Prediction Index (ABPI) and found it to be a significant predictor of violence in a prison population during an initial validation study. Jemelka, Wiegand, Walker, and Trupin (1992) evaluated the use of computer-interpreted screenings for predicting inmate violence and found that the Buss-Durkee Hostility Inventory ([BDHI]; Buss & Durkee, 1957) and the Minnesota Multiphasic Personality Inventory ([MMPI]; Hathaway & McKinley, 1943) Psychopathic Deviate (PD) scale were both successful predictors of violence. Weiss (2000) recommended the use of the Minnesota Multiphasic Personality Inventory-2 ([MMPI-2]; Hathaway & McKinley, 1989) for providing clinical adjustments to actuarial measures of dangerousness for prisoners. Finally, Edens, Hart, Johnson, Johnson, and Olver (2000) found that the Personality Assessment Inventory ([PAI]; Morey, 1991) ANT scale was highly correlated with the PCL-R Factor II rating with prisoners, which may indicate possible usefulness as a screening measure of prison violence.
Considering the research above, it appears that there may be differences in the most accurate methods for assessing risk of violence in prison settings as opposed to risk in the community. However, the bulk of violence risk assessment research has focused on the risk of violence in the community. In addition to the limited number of studies directly evaluating risk assessment for institutional violence, Loza (2003) reported that the low base rate (frequency of occurrence) of institutional violence increases the likelihood of achieving false positives when assessing risk for violent misconduct. Therefore, a need exists for the development of empirically validated methods for assessing risk of violence within correctional settings. Tailoring prison screenings of inmates to make use of validated risk assessment indicators could lead to a reduction in prison violence and greater safety in prisons. Thus, the purpose of this study was to add to the developing correctional risk assessment literature, with the intent of providing useful information to assist correctional staff in accurately classifying inmates based on violence potential.

The primary objectives of this study were twofold. The first primary objective was to investigate factors that appear likely to be predictive of increased or decreased risk for institutional violence. For the purpose of this study, factors predictive of increased risk will be referred to as risk factors while those predictive of decreased risk will be referred to as protective factors. This included an examination of relevant research on demographic, historical, and clinical variables and an examination of the utility of existing assessment measures for predicting violent behavior. A second primary objective was to synthesize salient information into a proposed set of screening guidelines for easy use and interpretation by laypersons involved in classifying management and
supervisory levels of prisoners.
REVIEW OF THE LITERATURE

The following literature review covers existing literature on several variables and violence risk assessment strategies possibly linked to institutional violence. Discussions of each variable will begin with brief information on the variable's relation to risk assessment in general; discussion of its relation to areas with some similarity to prisons or prison populations, such as secure forensic hospitals; and when applicable discussion of its applicability to prison populations. Unless otherwise indicated, linked or correlated variables positively correlated with increased risk for violence.

Actuarial Risk Assessment

*Demographics (Age and Race)*

The link between age and criminal activity has been widely researched. A negative correlation was consistently found between the two factors, with criminal activity decreasing as people age (Bonta, Law, & Hanson, 1998; Gardner, Lidz, Mulvey, & Shaw, 1996; Hirschi & Gottfredson, 1983). According to national crime statistics for 2005, the age of a suspect for total arrests reached a peak at 15 to 19 years, whereas arrests for violent crimes reached a peak at 20 to 24 years and then declined steadily with increasing age (Federal Bureau of Investigation, 2005). Violent recidivism consistently documents a similar link with age (Bonta et al., 1998; Cunningham & Reidy, 1998; Mossman, 1995; Young et al., 2004) and general inmate misconduct (Cunningham & Sorensen, 2007; Hirschi & Gottfredson, 1983; Jiang & Fisher-Giorlando, 2002; McCorkle, 1995; Toch, Adams, & Greene, 1987).
Harris and Rice (2007) investigated violent recidivism by using data from three previous studies to evaluate the effects of age on the rate of offenders re-offending. The authors used a combined data set of more than 1,300 offenders. Average follow-up times for the included samples ranged from 5 to 10 years. Age at first arrest, age at index offense, and age at release were all significantly negatively correlated with violent recidivism. Younger age was associated with increased likelihood of reoffending. Time spent incarcerated and time since first offense did not significantly correlate with violent recidivism.

MacKenzie (1987) examined the effect of age on violent behavior and general misconduct among inmates. Using self-report and file review data on 755 recently incarcerated male inmates, the author found that conflict with other prisoners and conflict with staff both decreased with age after reaching high points in the early 20s. General misconduct declined with age from teenage years.

Several researchers evaluated the correlation between age and violent behavior while incarcerated. In studies discussed in other sections, Harer and Langan (2001) and Walters and Geyer (2005) found age at prison admission negatively correlated with violent behavior while incarcerated; whereas Gillespie (2005), Mills and Kroner (2003), Camp, Gaes, Langan, and Saylor (2003), Roske (1985), and Lahm (2001) found age to be negatively correlated with prison assaults. Cunningham and Sorensen (2007) found age inversely correlated with violent misconduct.

A few researchers did not find significant correlations between age and violent misconduct. For instance, Skopp, Edens, and Ruiz (2007) did not find age significantly correlated with violent misconduct in a group of female inmates. McNiel, Eisner, and
Binder (2003) did not find age to correlate with violent misconduct in a population of psychiatric inpatients, and Novaco and Taylor (2004) did not find age to be significantly correlated for a group of developmentally disabled forensic inpatients.

Gendreau, Googin, and Law (1997) conducted a meta-analysis involving 39 studies that focused on predictive factors of general prison misconduct between 1940 and 1995. The authors found that in addition to situational factors global to inmates at specific institutions such as overcrowding and staff factors, several personal factors were significant predictors of general prison misconduct. Three personal variables were found to be the strongest significant predictors of misconduct: age, antisocial attitudes and behaviors, and criminal history. Three additional personal variables were found to be moderately significant predictors of misconduct: social achievement, race, and early family factors. The authors also identified the Level of Service Inventory–Revised (Andrews & Bonta, 1995) and the MMPI-2 as strong predictors but did not specify which aspects of the measures were used for prediction. The authors stated that “within the violent and nonviolent criteria, the distribution of predictor domains was comparable” (Gendreau, Googin, & Law, 1997, p. 422). Unfortunately, the study did not report data for violent misconduct.

Berk, Kriegler, and Baek (2006) evaluated the effectiveness of actuarial variables to predict serious inmate misconduct such as robbery, assault, or drug trafficking. With a sample of 9,662 male inmates new to the California Department of Corrections (CDC), they used random forests analyses to determine the effectiveness of 10 variables to predict serious misconduct. The predictor variables examined were sentence length, gang affiliation, age at first arrest, age at CDC intake, California Youth Authority (CYA) time
served, diagnosed mental illness, previously served CDC time, at least 31 days in county jail or CYA, and good and bad behavior in previous CDC incarcerations. Sentence length, age at first arrest, gang affiliation, and age at CDC intake were found to be salient predictors of serious inmate misconduct. Unfortunately, the authors did not report correlation data for the variables.

In a 2007 unpublished dissertation, Haun evaluated the link between actuarial variables and PAI test data and inmate misconduct and violent behavior while incarcerated. Data were gathered from records of 17,054 male and female inmates admitted to the Oregon Department of Corrections (ODOC) between August 2000 and January 2006. With an overall base rate of 7.5% for violent misconduct (8% for males and 3.9% for females), the author calculated odds ratios (OR) and found that age was significantly negatively correlated with violent misconduct, whereas inmates 31 years old or younger were 2.5 times more likely to have committed one or more violent infractions. In addition to age, the author found index offense of crime against a person as a negative predictor. Haun found male gender, index offense of a property crime, history of at least one previous incarceration, length of time incarcerated, gang affiliation, potential mental illness as identified by the PAI, invalid PAI profiles, and elevations on several individual PAI scales to be positive predictors of violent misconduct. The highest correlations between individual PAI scales and violent misconduct were for clinically elevated scores on ANT and AGG.

from the sample were inmates with life or higher sentences, inmates without children, and inmates not racially identified as either Black or White. They used a sample of 9,107 inmates from 275 prisons. Five demographic variables were significant predictors of violent rule violations: inmate age was negatively correlated, whereas Non-Caucasian race, violent criminal history, sentence length, and drug use history were all positively correlated with violent misconduct. In addition, the authors found three fluid variables correlated with violent rule violations: an inmate's number of telephone calls and participation in religious programs negatively correlated with violent rule violations, whereas participation in training programs positively correlated.

Using data on 1,440 non-death-sentenced murderers in the Texas Department of Criminal Justice prison system (TDCJ), Sorensen and Cunningham (2007) evaluated the effect of age on violent behaviors. Using a logistic regression model, the authors found that age below 21 years positively correlated and age above 40 years negatively correlated with potentially violent behaviors while incarcerated.

Cooper and Werner (1990) reviewed records on 33 male Federal inmates to evaluate correlations of demographic variables and violent inmate misconduct within the first six months of incarceration. The authors found the age at commitment and legal resident status were negatively correlated with violent misconduct. Results for criminal history variables were mixed. Number of prior arrests and number of prior convictions were positively correlated with violent misconduct, whereas severity of current offense, sentence length, history of escapes/Attempts, history of violence, and age at first arrest were not. Educational attainment was not a significant predictor of violent misconduct.
However, the small sample size in this study, combined with the low base rate of violent misconduct, suggests exercising caution when interpreting the results.

The results of the available studies evaluating the correlation between age and violent misconduct support age as an effective predictor variable. Age appears negatively correlated with risk of violence, with risk decreasing as age increases. See Appendix A for relevant study results.

As with age, a correlation between race and criminal behavior has been well documented (Bonta et al., 1998; Toch et al., 1987). According to U.S. census data, Black persons and Native Americans are 12.3% and 0.1% of the national population, respectively (U.S. Census Bureau, 2005). However, when compared to national crime statistics for 2005, both groups are over-represented in arrests: the percentage of total arrests for Black persons and Native Americans were 27.8% and 1.3% respectively (Federal Bureau of Investigation, 2005). These arrest rates are more than double the population estimates for these groups. Black (Berg & DeLisi, 2006; Jiang, Fisher et al., 2005; Toch et al., 1987), Native American (Berg & DeLisi, 2006), and Hispanic (Camp, Gaes, Langan, & Saylor, 2003) inmates exhibited a disproportionately high number of infractions.

Researchers evaluated the link between race and violent behavior while incarcerated. Jiang et al. (2005) found that non-Caucasian race was positively correlated to prison violence. Similar results were found by Gillespie (2005), who used data from self-report surveys of 688 male prisoners in Kentucky and Tennessee. Blacks had a higher mean score for both past and current reported violence. Using a reduced multiple regression model that accounted for 33% of the total variance, the researchers identified
five predictors of current violence significant for the combined sample: age negatively correlated with violent behavior, whereas aggressive personality scale, prior violence, current drug abuse, and reported self-esteem all positively correlated.

Camp, Gaes, Langan, and Saylor (2003) analyzed electronic data on 121,051 inmates sentenced to and incarcerated in the United States Federal Bureau of Prisons (BOP) during June 2001. The authors calculated odds-ratio coefficients to determine variables significantly correlated with violent inmate misconduct. They determined age was negatively correlated with violent misconduct, whereas average, initial, and squared custody scores (a computer-generated value based on the inmate’s criminal history such as prior convictions, history of violence, and severity of the current charge), prior misconduct, time at risk, age, and Mexican citizenship was positively correlated.

Berg and DeLisi (2006) used binomial regressions on data from 831 male and 174 female inmates of a state prison in the southwestern United States. For male inmates, community ties and educational attainment negatively correlated with violent misconduct, whereas race (Hispanic and Native American), history of violence, and time incarcerated were positively correlated with violent misconduct. For female inmates, the authors found educational attainment and offense severity negatively correlated with violent misconduct, whereas race (Black and Native American), confinement history, time served, and prison gang/disruptive group affiliation to be significantly correlated with violent misconduct. Therefore, race, time served, and educational attainment correlated with violent misconduct for both males and females.

Although research has consistently shown race to be a significant predictor of violent behavior, there are significant ethical and constitutional concerns with attempting
to use it in making decisions about individual inmates. In 2000, the U.S. Supreme Court vacated a death sentence ruling and ordered re-sentencing because a psychologist presented race as one of 24 factors to consider when predicting the defendant’s violence potential (Saldano v. Texas, 2000). Further, regarding discrimination, the American Psychological Association (APA) ethics code reads: “In their work-related activities, psychologists do not engage in unfair discrimination based on age, gender, gender identity, race, ethnicity, culture, national origin, religion, sexual orientation, disability, socioeconomic status, or any basis proscribed by law” (American Psychological Association, 2002, p. 5). Due to these potential legal and ethical concerns, the researcher excluded race from further consideration as a predictor of violent behavior in the current study.

Although race itself cannot be used as a classification variable, there is a possibility that differences in prediction along racial lines are driven by other variables. Some possible factors include a history of underprivileged group status with an adversarial view of authority, gang membership, and socioeconomic status. This area needs more research, as current studies provide little or no related information on these variables.

*Mental Health and Substance Use*

Several researchers have evaluated possible links between mental health status and violent recidivism. Typically, researchers have found the presence of a major Axis I clinical disorder to be negatively correlated with violent recidivism (Bonta et al., 1998; Young et al., 1999). There is a paucity of empirical research on mental health and inmate misconduct or violence. Results of existing studies have been mixed with some finding
positive correlations (Haun, 2007; Toch & Adams, 1986, Toch et al., 1987), others finding negative correlations (Gardner et al., 1996; Young et al., 2004), and some finding no significant correlation between mental illness and misconduct (Berk et al., 2006).

Gardner et al. (1996) used data on 357 matched pairs of patients seen in a psychiatric emergency room. Each pair included one patient judged “dangerous” by clinicians and one patient judged “not dangerous” by clinicians. Pairs were matched by race, gender, age, and whether admitted to the hospital or not. Researchers obtained reports of violent behavior over a 6-month follow-up period. In this study, race and gender did not predict violent behavior. Regression analysis identified history of violence, seriousness of violent acts within 2 months after the emergency room visit, age, urges to harm others, and diagnosis of thought disorder as significant predictors of violent behavior within the 6-month follow-up period. The authors found that the presence of a thought disorder negatively correlated with violence in the community.

Skeem et al. (2006) conducted a longitudinal study to evaluate possible correlations between psychiatric symptoms and violence in the community. Using a sample of 132 psychiatric emergency room patients, they measured psychiatric symptoms with weekly administrations of the Brief Symptom Inventory (BSI) (Derogatis & Melisaratos, 1983) and violence through self-report in weekly interviews over a 26-week period. The researchers found that when controlling for time at risk, BSI hostility scores were significantly correlated with violence over the 26-week period. In addition, they found that, within a given week, BSI scores for general psychological distress, as well as Depression, Hostility, and Threat Control and Override scales were all correlated with violence. Using a structural equation model, the researchers found that the best fit for a
time-ordered relationship between hostility and violence was with hostility increasing the likelihood of violence the following week.

McCorkle (1995) evaluated the effects of gender and mental health treatment history on general inmate misconduct. He used survey data on 9,075 male and 2,537 female inmates in state prisons to determine an inmate’s level of mental health utilization and number of infractions received while incarcerated. The annual base rates for misconduct (average number of infractions per member of the population) among the different sample groups were as follows: inmates with no mental health utilization history, 1.2; inmates with a history of psychotropic medication or psychiatric hospitalization, 1.5; and inmates currently receiving psychotropic medication, 1.9. He found significant group differences based on the reported mental health history. Using standardized regression, the authors found age and prior incarcerations to be negatively correlated with general misconduct. Additionally, security level was positively correlated with general misconduct for males and negatively correlated for females. History of employment prior to incarceration negatively correlated with general misconduct in males.

Several researchers investigated possible correlations between mental illness and violent prison misconduct in studies described in other sections. McNiel, Eisner, and Binder (2003) found paranoid symptoms positively associated with violent behavior in a psychiatric inpatient setting (as measured by MMPI-2 Pa1 scale and EHAS) and diagnosis of a depressive disorder negatively associated with violent behavior. Haun (2007) found potential mental illness, as measured by PAI scores, positively correlated with violent misconduct. Young et al. (2004) found neurological impairment negatively
correlated with assaultive behavior in prison, whereas Borderline Personality Disorder diagnosis, history of neurological injury, and insecure attachment style were positively correlated with assaultive behavior in prison. In prison psychiatric treatment, they found that the absence of a major mental disorder diagnosis, presence of a Borderline Personality Disorder diagnosis, and presence of insecure attachment style positively correlated with assaultive behavior. Gray et al. (2003) found that mental illness, as measured by the Brief Psychiatric Rating Scale (BPRS), was a significant positive predictor of physical aggression. In an unpublished dissertation, Offer (1997) found attachment style to be associated with violent behavior in prison. Unfortunately, the detailed results were not available for this source.

Toch and Adams (1986) also evaluated the effect of mental health utilization history on inmate misconduct. The authors conducted a records review on 10,534 male inmates released from the New York State prison system between July 1982 and September 1983. The average annual rates of adjudication for disciplinary infractions (average number of incidents per inmate where the inmate was found guilty) were lower in the group with no mental health history, higher for the group with a history of outpatient treatment, and highest for the group with a history of psychiatric hospitalization. Pairwise comparisons using the Scheffé test for a posteriori comparison indicated significant differences between the groups. These results supported level of mental health utilization as a predictor of violent inmate misconduct. However, they did not differentiate between types of mental illness that may affect the violent behavior base rates.
Teplin, Abram, and McClelland (1994) followed 728 male jail detainees in Chicago, Illinois for a 6-year follow-up period. They aimed to identify whether the presence of a psychiatric disorder predicted violent recidivism. The researchers did not find a significant difference in recidivism between subjects with psychiatric disorders (including substance abuse disorders) and subjects without psychiatric disorders. However, the researchers did find a positive correlation between history of violence and recidivism, whereas history of prior violent crime arrests led to subjects in all categories significantly more likely to recidivate.

Baskin, Sommers, and Steadman (1991) evaluated the relationship between reported mental health impairment and violent behavior while incarcerated. The researchers reviewed survey responses and chart review on 3,332 inmates in the New York State prison system. Survey data came from a state-wide survey of prisoners done by the New York Office of Mental Health conducted in 1986. The authors controlled for socio-demographic and criminal history variables, while accommodating for skewed distributions and adjusting for non-independence among dependent variables. They found that reports of general confusion, as an indicator of current psychological distress, significantly correlated with increased violent behavior toward both inmates and staff. Data from reviewed studies indicated some mental health variables may be useful predictors of violent misconduct, whereas others may not. See Appendix B for relevant study results.

Studies on correlations between substance abuse and institutional violence also showed mixed results. In studies described in other sections, Jiang et al. (2005), McNiel, Eisner, and Binder (2003), and Gillespie (2005) found substance abuse to be positively
correlated with violent behavior while incarcerated. However, Jiang and Fisher-Giorlando (2002) found a negative correlation. Haun (2007) did not find substance abuse history to be a significant predictor of violent behavior. In an unpublished dissertation, Roske (1985) found current substance abuse positively correlated with violent misconduct, but substance abuse history negatively correlated with the same variable. The mixed results of these studies do not support substance abuse history as a reliable predictor of violent misconduct while incarcerated.

**Criminal Behavior and Violence History**

A positive correlation between criminal history and violent recidivism has been widely researched and documented (Bonta et al., 1998; Gardner et al., 1996; Mossman, 1994; Teplin et al., 1994). Toch et al. (1987) found criminal history to be positively correlated with general inmate misconduct. Additionally, Walters (1991) found sentence length positively correlated with general misconduct. A positive correlation between criminal history or history of violent behavior and inmate violence has been found in several previously discussed studies: Berg and DeLisi (2006; violence history for males), Camp et al. (2003; criminal history and misconduct history), Cunningham and Sorensen (2007; prior prison term and history of dangerous misconduct), Gillespie (2005; prior violence), Jiang et al. (2005; criminal history), Skopp, Edens, and Ruiz (2007; incarcerations and violence history for females), and Walters and Geyer (2005; type of index offense). In unpublished dissertations, Roske (1985) found criminal history and previous violent behavior to be positively correlated with violent misconduct and Lahm (2001) found history of aggressive behavior to be positively correlated with the same variable. Wang (1998) found current incarceration for a violent offense predictive of
violent misconduct. Cooper and Werner (1990) found mixed results. They found number of prior arrests and number of prior convictions positively correlate with violent misconduct, whereas severity of current offense, sentence length, history of escapes/attempt, history of violence, and age at first arrest did not correlate with violent misconduct.

Harer and Langan (2001) analyzed demographic and violent misconduct data for 24,765 female and 177,767 male inmates in the BOP from 1991 through 1998 to determine which variables were correlated with increased violent behavior. They found local authority detainer, history of escape, history of violence, level of pre-commitment status (self-surrender vs. bond or pre-sentenced detention), and criminal history, were all positively correlated with violent misconduct. Severity of current offense, age at admission, and education level at admission all negatively correlated with violent misconduct.

Verona and Carbonell (2000) gathered information on 186 females housed in a state prison to identify differences in over-controlled hostility among nonviolent offenders, single violent offense offenders, and repeat violent offenders. The authors identified significant differences in violent disciplinary reports based on history of violence. Specifically, repeat violent offenders had received more violent disciplinary reports than nonviolent offenders. These results supported a history of violence as a predictor of risk for violent behavior.

Mossman (1994) used receiver operating characteristic (ROC) analysis to reanalyze data sets from 44 published studies on prediction of violence. He calculated the likelihood that a randomly selected violent person would be rated as more violent than a
randomly selected nonviolent person. Past behavior, clinical judgment, discriminant functions retrofitted to data, and discriminant functions created and then validated on another sample were all significantly better than chance at predicting violent behavior. These obtained areas under the curve (AUC) values indicated that clinical judgment alone was a less accurate predictor of violence than were past behavior or discriminant function ratings based on actuarial data. In summary, reviewed research has found violent behavior to be a consistent positive predictor of risk for violent misconduct. See Appendix C for relevant study results.

Gang Affiliation

Prison gangs have existed since the 1950s and tend to be organized along racial or ethnic differences (Fong & Vogel, 1994). Anecdotal evidence from this author’s experience as an employee of the U.S. Federal Bureau of Prisons for more than two years suggests prison gang membership to be directly or indirectly linked to the majority of institutional violence. Interestingly, violence within groups appeared to occur much more frequently than the logical between-group conflicts. In this author’s experience, prison gangs often become what some might call a “one-stop shop” for members. Gangs have strict codes of conduct determining daily activities, such as where members eat, how they socialize, and how they must present themselves to represent their gang. Additionally, gangs typically control members’ access to many items including, channel selection for televisions, recreational items, and illegal activities (including drugs, prostitution, gambling, and weapons).

With these conditions in place, prison gangs tend to police their own members for code violations, acquired debts, or even to appease other groups with a “disrespect”
complaint about a member. Within-group violent behavior is the method commonly employed for discipline purposes. In 1993, the American Correctional Association (ACA) reported that prison gangs were responsible for 40% of inmate-on-inmate violence and 20% of inmate-on-staff violence (Compton & Meacham, 2005). Due to an increasing gang population, the current percentage of current violent misconduct linked to gangs is likely higher (Compton & Meacham, 2005).

Several researchers found a positive link between gang affiliation and prison violence. For example, Haun (2007) found that prisoners with gang affiliations were more than three times as likely to commit violent behaviors as non-gang-affiliated prisoners. Cunningham and Sorensen (2007) conducted a file review on 24,517 male high-security inmates incarcerated in the Florida Department of Corrections facilities to evaluate inmate variables associated with violent misconduct. The authors found prison gang membership to be positively correlated with violent misconduct. The authors found that age was inversely correlated with violent misconduct. Sentence length was also inversely correlated with violent misconduct. Additionally, prior prison term and history of dangerous misconduct in prison were positively correlated with violent misconduct. Conviction for a violent offense negatively correlated, and time incarcerated did not correlate with violent misconduct.

Gaes, Wallace, Gilman, Klein-Saffran, and Suppa (2002) reviewed files on 82,504 U.S. Federally incarcerated males to evaluate the link between gang affiliation and inmate misconduct. The authors found that being a confirmed full prison gang member, a suspected but not fully confirmed member, or an associate of a prison gang was positively correlated with violent misconduct. They also found that length of time as
a gang member was negatively correlated with violent misconduct. Unfortunately the authors did not present the statistics. The seemingly paradoxical finding of length of time in a gang correlating with increased violence was discussed by the authors. They hypothesized that either members assuming more leadership roles or a result of increased control imposed on the activities of known gang members contributed to the cause.

Placido, Simon, Witte, Gu, and Wong (2006) reviewed files of 160 male Federal inmates and found gang membership to be significantly positively correlated with increased adjudication for major institutional offenses, primarily violent in nature. The study involved a comparison between inmates who had or had not completed an institution treatment program. Untreated gang members engaged in significantly more major infractions than untreated non-gang members. Additionally, treated gang members engaged in significantly more major infractions than did treated non-gang members.

Overall, these results support prison gang membership as a predictor of violent misconduct. See Appendix D for relevant study results. However, more research measuring this factor is needed due to the current paucity available. In particular, there is a need for more studies that are prospective, rather than cross-sectional, to measure the predictive ability of gang membership.

Social and Personal Achievement

Bonta et al. (1998) conducted a meta-analysis to evaluate predictors of violent recidivism. The researchers found social and life skills to be significant negative predictors of violent recidivism. Additionally, Toch et al. (1987) found social and life skills indicators such as work history, marital status, and educational attainment to be negatively correlated with general inmate misconduct.
Jiang and Fisher-Giorlando (2002) collected data on rule violations over a 6-month period for 186 male inmates of a prison in the Southern United States. They identified several inmate variables significantly correlated with violent misconduct: residence in dormitories and marital status as divorced were negatively correlated, whereas residence on working cell blocks, time spent at a work location, parental status, and substance abuse history positively correlated with violent misconduct. Berg and DeLisi (2006) also found community ties negatively correlated with violent misconduct.

A couple of studies discussed in other sections evaluated the link between educational attainment and violent misconduct while incarcerated. Harer and Langan (2001), Walters and Geyer (2005), and Berg and DeLisi (2006) found educational attainment to be significantly negatively correlated with violent behavior while incarcerated. Additionally, Cooper and Werner (1990) found that level of educational attainment was not significantly correlated with violent misconduct. However, small sample size, in addition to low base rates of violent misconduct limited the findings of this study. Overall, results in this section support a link between general personal/social achievement and violent misconduct, whereby higher achievement in these areas decreases the likelihood of violent behavior. Data from reviewed studies support several social and personal achievement variables as effective predictors of violent misconduct. See Appendix E for relevant study results.

Anger and Aggression

Anger and aggressive behavior have been linked to violent recidivism (Loza & Dhaliwal, 2005; Loza & Loza-Fanous, 1999, McNiel et al., 2003). In an unpublished dissertation, Lahm (2001) gathered data on more than 1,000 inmates in Ohio, Tennessee,
and Kentucky prisons and found age to be negatively correlated and history of aggression to be positively correlated with prison assaults. In an unpublished dissertation, Wang (1998) found that anger correlated with physical aggression.

McNiel, Eisner, and Binder (2003) used clinical and self-report data from 110 patients at an inpatient short-term psychiatric unit to evaluate whether attributional style was related to self-report of recent violent behavior. Specifically, the researchers sought to determine whether an aggressive attributional style (where the person attributes deliberate and malicious intentions to harmful acts of others) was correlated with subjects having engaged in recent acts of violence. The authors used the Novaco Anger Scale-Part A ([NAS-A]; Novaco, 1994), the Psychiatric Epidemiology Research Interview threat/control override items ([TCO]; Link & Stueve, 1994), the MMPI-2 Pa subscale, and External Hostile Attribution Scale ([EHAS]; McNiel, Eisner, & Binder, 2003). They found that aggressive attributional style, as measured by the NAS-A, TCO, MMPI-2 Pa scale, and EHAS, was positively correlated with violent acts. These results supported anger, paranoid symptoms, and suspiciousness as correlates of violent behavior. The authors also found several control variables to be significantly correlated with reported violent behavior, i.e., impulsiveness and a diagnosis of a substance abuse disorder were positively correlated with violent behavior, whereas diagnosis of a depressive disorder was negatively correlated with violent behavior. The authors did not find age or presence of a schizophrenic diagnosis significantly correlated with reported violent behavior.

The relationship between anger and violent behavior in offenders was also evaluated by Novaco and Taylor (2004). The authors assessed 129 developmentally disabled male patients in a United Kingdom forensic hospital setting using several
measures of anger. They evaluated the effectiveness of anger as a predictor of assaultive behavior during the hospitalization (average stay about 3 years). The authors evaluated the correlation between scores on anger measures and number of assaults during the hospitalization. They chose multiple regression to control for age, IQ, length of stay, violent offense history, and personality factors (as measured by the Eysenck Personality Questionnaire–Revised). Age, length of stay, and violent offense history were not significantly correlated with assaultive behavior. To assess anger, the authors used the Ward Anger Rating Scale ([WARS]; Novaco, 1994), Novaco Anger Scale ([NAS]; Novaco, 2003), Provocation Inventory ([PI]; Novaco, 2003), and the Spielberger State-Trait Anger Expression Inventory ([STAXI]; Spielberger, 1996). Addition of the anger variables resulted in a significant change in the regression model. The authors’ results indicated that anger remained a significant positive predictor of institutional violence for this population after controlling for other variables.

Grisso, Davis, Vesselinov, Appelbaum, and Monahan (2000) used data from the MacArthur Risk Assessment Study to determine if endorsement of violent thoughts differentiated between inpatient persons who did or did not engage in violent incidents within 20 weeks of release. The authors found that patients who endorsed violent thoughts were significantly more likely to be violent than those who did not endorse violent thoughts. Data from the reviewed studies support anger and aggression as predictors of violent misconduct. See Appendix F for relevant study results.

Clinical Risk Assessment

Werner, Rose, and Yesavage (1983) compared predictions of violent acts by 15 psychologists and 15 psychiatrists reviewing case data for 40 patients in an acute
psychiatric facility. The psychologists and psychiatrists reviewed clinical information from the intake and information regarding whether an act of violence was part of the reason for hospitalization and then made predictions regarding whether the patients would engage in a violent act within seven days. The researchers found that intra-class (ICC) correlations for psychologists, psychiatrists, and combined psychologists and psychiatrists were significantly above chance. There was no significant difference in the accuracy of predictions between the two groups. However, researchers did not find the combined accuracy of judges’ predictions to differ significantly from chance.

McNiel, Lam, and Binder (2000) collected data on 478 patients of a short-term, locked, psychiatric unit to determine accuracy of physicians’ and nurses’ clinical predictions for violent behavior during the first seven days of hospitalization. The researchers found that predictions of physicians and nurses were in agreement for 88% of the sample. Further, the authors conducted ROC analysis to determine the predictive power of clinical ratings. When the ratings of physicians and nurses were in agreement, predictions were significantly better than chance. These results support clinical judgment as an effective predictor of short-term violence in a secure inpatient setting. No studies were found in the current literature search that specifically assessed clinical judgment as a predictor of prison violence. There is a need for more research to identify if this variable could have predictive ability for prison violence.

Psychopathy and Antisocial Orientation

Hare (1999) has described psychopaths as: social predators who charm, manipulate, and ruthlessly plow their way through life, leaving a broad trail of broken hearts, shattered expectations, and empty
wallets. Completely lacking in conscience and in feelings for others, they selfishly take what they want and do as they please, violating social norms and expectations without the slightest sense of guilt or regret (p. xi).

The primary psychological measure of psychopathy is the Psychology Checklist – Revised ([PCL-R]; Hare, 1991). The original version of the Psychopathy Checklist (PCL) was developed in 1980 by Hare and was based on a description of a personality type by Cleckley (1941) that has become associated with the construct of psychopathy. Recently, the PCL-R has been updated ([PCL-R Second Edition]; Hare, 2003) and a shortened version has been developed (Psychopathy Checklist: Screening Version [PCL:SV]; Hart, Cox, & Hare, 1995). The PCL:SV is a structured interview derived from 12 items of the PCL-R. Guy, Edens, Anthony, and Douglas, (2005) stated that Hare’s psychopathy measures represent “the gold standard and [are] the basis for most cumulated knowledge about psychopathy in contemporary research” (p. 1056). In addition to a total score, the measures also provide scores for two distinct aspects of psychopathy. The first of these, Factor 1, measures personality traits such as affect and interpersonal views/functioning. Factor 2 is more behavioral in nature and focuses on deviant lifestyle and antisocial traits (Guy et al., 1995).

Skeem, Mulvey, Tiemann, and Monahan (2005) analyzed data from the MacArthur Violence Risk Assessment Study (Monahan et al. 2001) on 769 patients at acute inpatient facilities who completed the NEO-Five-Factor-Inventory (NEO-FFI; Costa & McCrae, 1989). The researchers evaluated correlations between the NEO-FFI, PCL:SV, and violent behavior. Both the PCL:SV and the NEO-FFI were correlated with violent behavior. In particular, the NEO-FFI Antagonism scale was positively correlated
with violence, whereas the Conscientiousness scale was negatively correlated with violence. The PCL:SV was positively correlated with violent behavior. Logistic regression analysis indicated the NEO-FFI and PCL:SV were moderately correlated and shared much of the variance in predicting violent behavior.

Mills and Kroner (2003) administered the Basic Personality Inventory (BPI; Jackson, 1989) to and conducted records reviews for 208 violent and child sex offenders in Canada to evaluate whether the BPI was correlated with institutional misconduct. Specifically, the researchers evaluated the correlation of three BPI scales related to antisocial orientation: Alienation (ALN), Impulse Expression (IME), and Interpersonal Problems (INP). ALN was positively correlated with violent offenses for both child sex offenders and violent offenders, whereas INP was positively correlated with violence for child sex offenders only based on simple correlation. Using a multiple regression analysis the authors found that age and INP incrementally added a significant amount of variance in violent misconduct for child sex offenders. For violent sex offenders, age, ALN, and IME incrementally added a significant amount of variance. In sum, data from reviewed studies consistently support psychopathy and Antisocial Personality Disorder as predictors of violent misconduct. See Appendix G for relevant study results.

Available Measures for Violence Risk

*Psychopathy Checklists*

Elevated scores on the Psychopathy Checklist measures have been associated with a history of violent behavior. For example; Walsh, Swogger, and Kosson (2004) evaluated African American and European American inmates at a county jail near Chicago to determine whether psychopathy (as measured on the PCL-R) and IQ were
correlated with a history of violent crime convictions. Multiple regression analyses indicated that PCL-R scores were positively correlated with violence for both groups. IQ negatively correlated with violence with European Americans, but did not correlate with violence for African Americans.

Researchers found Hare’s PCL measures to be significantly correlated with increased recidivism in released prisoners (Hare et al., 1990; Hart, Kropp, & Hare, 1988; Loza et al., 2004; Salekin, Rogers, and Sewell, 1996; Walters, 2003). Skeem and Mulvey (2001) analyzed data from the MacArthur Violence Risk Assessment Study (Monahan et al. 2001) to evaluate whether psychopathy was correlated with violent behavior. PCL:SV classification of psychopathy, a diagnosis of Antisocial Personality Disorder, a diagnosis of a Cluster B personality disorder (Antisocial, Borderline, and/or Histrionic personality disorders), the Novaco Anger Scale–Behavioral (Novaco, 1994), and substance abuse were all positively correlated with violence.

The Hare measures were evaluated for utility of predicting behavior in secure settings. Loza et al. (2004) also found the PCL-R an effective predictor of general prison misconduct. As discussed in another section, McNiel et al. (2003) found the PCL:SV to be an effective predictor of short-term risk of violence in psychiatric inpatients.

Walters (2003) conducted a meta-analysis on 50 studies to evaluate the effectiveness of the factor scores for PCL measures in predicting institutional misconduct. He found both Factor 1 and Factor 2 positively correlated with violent institutional misconduct. However, Factor 2 demonstrated a higher correlation with violent misconduct.
In a meta-analysis, Guy, Edens, Anthony, and Douglas (2005) evaluated the ability of psychopathy as assessed on the PCL, PCL-R, or PCL:SV to predict violent institutional misconduct. The analysis was done on 34 studies with a combined total of 5,381 participants. The authors found Total, Factor 1, and Factor 2 scores to positively correlate with violent misconduct.

Hill et al. (1996) administered the PCL:SV to and reviewed charts for 55 adult male offenders in a Texas forensic psychiatric hospital to determine correlations with aggressive or violent misconduct. Stepwise regression analyses indicated that, within the six-month follow-up period, substance abuse history and PCL:SV total score were found to be significantly correlated with violent or aggressive behavior.

Young et al. (2004) evaluated the correlations of a number of actuarial and clinical variables with violent behavior by 222 inmates in prison and in prison psychiatric treatment. Only two variables were correlated in the same direction for both groups. Clinical diagnosis of Borderline Personality Disorder and insecure attachment as assessed on the Rorschach Inkblot test were positively correlated with violence. History of neurological injury and neurological impairment were both positively correlated with violence in prison and negatively correlated with violence in treatment. PCL-R Factor 2 scores, youth authority placement, and substance abuse history were all correlated with violence in prison. For violence in treatment, PCL-R total score and immature self esteem as determined by the Rorschach Inkblot test were positively correlated. Age, socioeconomic status, psychotic thinking as determined by the Rorschach Inkblot test, and clinical diagnosis of a major mental disorder were all negatively correlated with prison psychiatric treatment.
As discussed in another section, Walters, Duncan, and Geyer (2003) did not find PCL-R scores to be a significant predictor of violent misconduct. However, this finding is not consistent with the trend in research supporting the use of PCL measures for assessing violence risk. Whether this finding can be replicated calls for additional research.

Violence Risk Appraisal Guide (VRAG)

The Violence Risk Appraisal Guide ([VRAG]; Harris et al., 1993) is an actuarial risk assessment tool. It provides information on likelihood of violent behavior based on demographic, criminal history, childhood history, and psychiatric history variables. VRAG variables positively correlated with violence are PCL-R score, history of poor elementary school adjustment, clinical diagnosis of a personality disorder, separation from parents by age 16, prior conditional release failure, criminal history, marital status, history of substance abuse, and male victim in index offense. Variables negatively correlated with violence are age at time of index offense, victim injury, and diagnosis of schizophrenia (Rice, 1997).

Having an elevated score on the VRAG has been documented as positively correlated with general criminal behavior (Loza et al., 2004). Additionally, it has been validated as an effective predictor of violent recidivism (Harris et al., 1993; Loza et al., 2004). Recently, Harris, Rice, and Camilleri (2004) used data from the MacArthur Violence Risk Assessment Study to evaluate effectiveness of the VRAG in assessing risk of violence for psychiatric hospital patients. The authors used the VRAG with data from 1136 voluntarily and civilly committed patients and compared the results to violence data.
from the 50-week follow-up period. The VRAG significantly predicted acts of violence for both the 20-week and 50-week follow-up periods.

*Historical, Clinical, Risk Management Scales (HCR-20)*

The HCR-20 is a checklist for predicting violent behavior (Webster et al., 1997). It was designed to be used as a guideline tool to assist users in formulating predictions of future violence by combining clinical assessment with actuarial variables related to violent behavior. The checklist consists of 10 historical factors, 5 clinical variables, and 5 future risk management items. Historical factors include previous violence, young age at first incident, relationship instability, employment problems, substance abuse problems, major mental illness, psychopathy (as measured by PCL-R or PCL:SV), early maladjustment, personality disorder, and prior supervision failure. Clinical factors include lack of insight, negative attitudes, active symptoms of major mental illness, impulsivity, and unresponsive to treatment. Finally, the variables for future risk management include plan’s lack of feasibility, exposure to destabilizers, lack of personal support, noncompliance with remediation attempts, and stress (Arbisi, 1997).

Gray et al. (2003) evaluated the ability of the PCL-R and HCR-20 to predict violence in 34 mentally disturbed offenders at a secure facility. In this study, the PCL-R was significantly correlated with the HCR-20 History subscale, Clinical subscale, and combined History and Clinical Scales. The effectiveness of the HCR-20 at predicting physically aggressive behavior was significant for the combined scale, History subscale, and Clinical subscale. The HCR-20 was a better predictor than the PCL-R total, PCL-R Factor 1, and PCL-R Factor 2. In addition, current severity of mental illness as measured by the Brief Psychiatric Rating Scale (BPRS) was a significant predictor of physical
aggression. Douglas et al. (1999) administered the HCR-20 and the PCL:SV to 193 involuntarily hospitalized patients and reviewed files and records for an average follow-up period of about 20 months. The researchers found that both the HCR-20 and the PCL:SV were significant predictors of physical violence.

McNiel et al. (2003) reviewed charts for 100 inpatient psychiatric patients to determine effectiveness of the PCL:SV, HCR-20, and the McNiel-Binder Violence Screening Checklist (VSC; McNiel et al., 2003) in predicting violent behavior. Using the chart review, researchers completed the above measures for 50 patients found to have been assaultive and 50 randomly selected non-assaultive patients. The researchers found that the most effective tools for assessing short-term risk in acute psychiatric situations were not the same as those most effective for long-term risk. They found that clinical tools appeared to be most effective for acute risk. Also, McNiel et al. found that the PCL:SV, HCR-20, and the McNiel-Binder Violence Screening Checklist were all positively correlated with short-term violence in inpatient psychiatric patients.

**Level of Service Inventory –Revised (LSI-R)**

The Level of Service Inventory-Revised ([LSI-R]; Andrews & Bonta, 1995) is a 54-item interviewer-scored tool designed for assessing risk level and needs of Canadian inmates released for probation. The LSI-R is the current revision of the original Level of Supervision Inventory ([LSI]; Andrews, 1992), later renamed the Level of Service Inventory. Information to complete the LSI-R is obtained through a structured interview and review of records (Motiuk, Motiuk, & Bonta, 1992). It provides a total score and ratings on ten scales: “Criminal History, Education/Employment, Finances,

The LSI-R has been validated as a predictor of general violent behavior (Girard & Wormith, 2004; Loza et al., 2004; Loza & Dhaliwal, 2005; Loza, Neo, Shahinfar, & Loza-Fanous, 2005). Researchers found the LSI to be positively correlated with a history of violent offending (Hollin & Palmer, 2003; Schlager and Simourd, 2007). Loza et al. (2004) also found the LSI-R to be effective in predicting general prison misconduct. Concurrent validation studies with other violence risk assessment measures found the LSI-R to be positively correlated with the SAQ (Loza et al., 2004; Loza et al., 2005) and the VRAG (Loza et al., 2004).

Motiuk et al. (1992) evaluated data for 97 Canadian prisoners to determine the predictive validity of the LSI for assessing risk of violent misconduct. They found the LSI-R to be positively associated with violent prison misconduct. Additionally the authors constructed and administered a self-report version of the LSI-R, constructed for this study, to the sample. Motiuk et al. found the measure to be correlated with the traditional LSI-R administered by assessment professionals and also to be positively associated with prison misconduct. In addition to supporting the use of the LSI-R in screening for risk of inmate violence, results of this study support use of self-report measures valid for violence risk screening.

Daffern, Ogloff, Ferguson, and Thomson (2005) reviewed scores on an eight-item screening version of the LSI-R (LSI-R:SV; Andrews & Bonta, 1998) and aggression ratings of 193 male and 39 female forensic inpatients. The found the LSI-R:SV was only weakly associated with violent misconduct. Mean LSI-R:SV total scores were higher for
violent than nonviolent subjects. However, the LSI-R:SV total scores were only slightly better than chance in predicting violent misconduct. These results suggest that the screening version may not be a valid predictor of violent misconduct.

**Violence Risk Scale (VRS)**

The Violence Risk Scale ([VRS]; Wong & Gordon, 1999-2003) is a measure designed to assess level of risk for violent behavior, treatment needs linked to violence, readiness for change through treatment, and post-treatment changes in treatment needs. The VRS contains six static variables (current age, age at first violent conviction, number of juvenile convictions, history of violence, prior release failures or escapes, and stability of family upbringing) and 20 dynamic variables covering several areas, including criminal thinking, mental health, social/life skills, and behavior variables, among others. Evaluators rate variables on a 4-point scale based on a review of records and semi-structured interview.

In a validation study, Wong and Gordon (2006) found the VRS to be an effective predictor of violent recidivism at 1-, 2-, 3-, and 4.4-year follow-up periods. Additionally, the authors found the VRS was positively correlated with two measures of violence risk discussed above, the PCL-R and LSI-R. Loza and Dhaliwal (2005) also found the VRS to be a valid predictor of violent recidivism. These initial findings indicated that the VRS may be useful for predicting recidivism. However, more research is needed to determine if the above results can be replicated. Additionally, no studies were found evaluating use of the VRS for predicting violent prison misconduct.

**Self-Appraisal Questionnaire**
The Self-Appraisal Questionnaire ([SAQ]; Loza, 1996) is a self-report measure with 72 items, designed for prediction of violent and nonviolent recidivism. The SAQ provides a total score and eight subscale scores targeting “the predominant predictive areas found in the recidivism literature” (Loza et al., 2004; p. 1178). The subscales are Alcohol and Drug Abuse, Anger, Antisocial Associates, Antisocial Personality Problems, Conduct Problems, Criminal History, Criminal Tendencies, and Validity (Loza et al., 2004).

Researchers found the SAQ to be associated with violent recidivism (Loza & Dhaliwal, 2005; Loza & Loza-Fanous, 1999; Loza & Loza-Fanous, 2000; Loza & Loza-Fanous, 2003; Loza, MacTavish, & Loza-Fanous 2007; Mills, Loza, & Kroner, 2003). It has also been documented as a valid measure for predicting general prison misconduct (Loza et al., 2004; Loza & Loza-Fanous, 2003; Villeneuve, Oliver, & Loza, 2003). The SAQ has also been found to have moderate to strong correlations with other measures discussed in this paper, including the LSI (Loza et al., 2004; Loza et al., 2005), the PCL-R, and the VRAG (Loza et al., 2004).

Loza, Conley, and Warren (2004) administered the SAQ and conducted a file review on 86 adult male state prisoners to evaluate the concurrent validity of the SAQ and violent behavior and institutional misconduct. The authors found that elevated SAQ scores were significantly correlated with increased history of total convictions, violent convictions, and total number of institutional misconducts. Unfortunately, the authors did not present whether or not the SAQ correlated with violent institutional infractions.

*Psychological Inventory of Criminal Thinking Styles (PICTS)*
The Psychological Inventory of Criminal Thinking Styles ([PICTS]; Walters, 1995) is an 80-item self-report measure designed to assess thinking styles associated with criminal lifestyles. It consists of two validity scales, eight thinking style scales (Mollification, Cutoff, Entitlement, Power Orientation, Sentimentality, Superoptimism, Cognitive Indolence, Discontinuity), four factor scales, and two content scales (Walters, 2002). The current revision of the PICTS, Version 4.0, consists of 80 items rated on a four-point Likert-type scale (Walters, 2002).

Concurrent validity research has documented modest correlations between the PICTS and Hare's PCL measures (Walters, 2002; Walters & Mandell, 2007). The PICTS has also been documented as a valid measure of recidivism (Walters, 1997, 2002; Walters & Elliott, 1999). Researchers also found the PICTS to be a valid predictor of general institutional misconduct (Walters, 1996, 2002; Walters & Elliott, 1999).

Walters and Geyer (2005) evaluated PICTS and PAI scores, as well as records of 136 male Federal inmates, to evaluate the level of agreement between the PAI and PICTS and the construct validity of these measures for violent misconduct. The authors found the PICTS Thinking Style Scales and the PAI ANT scale to be positively correlated, as were the PICTS and PAI validity scales. PAI ANT and the PICTS Reactive Thinking scales were correlated with aggressive infractions. PICTS Proactive Thinking was not significantly correlated with aggressive infractions. Three actuarial variables (age, education, and type of index offense) were negatively correlated with aggressive infractions. The researchers found no significant correlations for marital status and race.

Walters (2005) evaluated the effectiveness of a composite PICTS scale called “Reactive Criminal Thinking” (PICTS R, p. 66). It was developed from three existing
PICTS scales. Using test and disciplinary data on 103 male Federal inmates, Walters found the PICT R to be a significant predictor of aggressive infractions, such that inmates with scores above a cutoff of 55 on the scale were more than three times likely to engage in aggressive misconduct than those who obtained scores below 55.

Walters (2006) compared test and disciplinary data of 219 male medium-security Federal inmates and 191 male maximum-security Federal inmates to assess the validity of the PICTS thinking scales for predicting violent institutional misconduct. The author found the Cutoff (measuring a tendency in thinking to remove rapidly obstacles or deterrents for crime) scale to be a significant positive predictor of aggressive infractions for both prisoner samples. Walters found no other individual scale to be a significant prediction of aggressive infractions in either sample group (2006).

Walters and Mandell (2007) reviewed disciplinary records and test data from the PICTS and PCL:SV on 136 male Federal inmates to assess the validity of the PICTS in predicting institutional misconduct. Both measures were significant predictors of general misconduct. However, only the PICTS was a significant predictor of violent misconduct (Walters & Mandell, 2007).

*Minnesota Multiphasic Personality Inventory-2 (MMPI-2)*

Hathaway and McKinley published the original Minnesota Multiphasic Personality Inventory (MMPI) in the early 1940s (Hathaway & McKinley, 1943). The test was revised, restandardized, and published as the MMPI-2 in August of 1989 (Hathaway & McKinley, 1989). The MMPI-2 is a 567-item true/false self-report inventory. It provides scores on 104 overlapping scales. These include 3 validity scales,
10 clinical scales, 15 content scales, 27 content component scales, 21 supplementary scales, and 28 Harris-Lingoes subscales (Anastasi & Urbina, 1997).

Shaffer, Waters, and Adams (1994) used data for state prison inmates in Louisiana to identify variables correlated with violent behavior. A stepwise discriminant analysis of the inmate sample yielded a six-variable discriminant function with 72% overall accuracy for correctly classifying inmate subjects and a 28% false positive rate. The improvement of the discriminant function over chance was significant. The individual variables in the discriminant function were MMPI Scale F, MMPI Scale 1, violence history, juvenile arrest history, psychiatric hospitalization history, and marital status. The researchers reported no statistics for the individual variables.

Using the original MMPI, Megargee and Dorhout (1977) developed the Megargee MMPI-Based Classification System for classifying management and treatment needs of offenders. This classification system was found to be an effective predictor of adjustment to prison and general misconduct (Carbonell, Megargee, & Moorhead, 1984; Megargee & Carbonell, 1985). However, attempts to apply and validate the classification system with the MMPI-2 yielded mixed results. Megargee (1994) found moderate agreement between the MMPI and MMPI-2 for classifying male offenders, but Megargee (1997) was not able to achieve an acceptable level of agreement for classifying a group of female offenders.

**Personality Assessment Inventory (PAI)**

The Personality Assessment Inventory ([PAI]; Morey, 1991) is a 344-item self-report inventory published in 1991 as an alternative to the MMPI (Boyle, 1995). The PAI was designed with 22 non-overlapping scales with items that require an average fourth-grade reading level and that are rated on a four-point ordinal scale (Kavan, 1995). The
PAI full scales include 4 validity, 11 clinical, 5 treatment, and 2 interpersonal scales (Morey, 1991).

In a study designed to measure the construct validity of the PAI for identifying psychopathy, Salekin et al. (1997) compared the convergent validity of three PAI scales theoretically related to psychopathy with two structured clinical interviews. The PAI scales used were Antisocial (ANT), Borderline (BOR), and Paranoia (PAR). The researchers administered the PAI along with two structured interviews--the PCL-R and the Personality Disorder Examination (PDE)--to 103 female inmates at a county jail in Texas. The researchers administered all three measures to the entire sample. The results of the study supported the hypothesis that the PAI ANT scale, PCL-R, and PDE all appeared to measure the same construct of psychopathy within this population. Within the measured population, the PCL-R identified the fewest number as psychopaths, the PAI identified a larger proportion, and the PDE identified the largest proportion. Almost all participants identified by the PCL-R and PAI were also identified by the PDE. The PAI ANT scale significantly correlated with the PDE ATS scale, PCL-R Total, PCL-R Factor 1, and PCL-R Factor 2, which demonstrated that the PAI ANT scale does appear to be a valid measure of psychopathic aspects of personality.

To investigate the hypothesis that the PAI is a valid measure of psychopathy, Edens et al. (2000) conducted two comparative studies of the PAI and the PCL-R. In the first study, the PAI and the PCL:SV were administered to 46 adult male inpatients at a forensic hospital. All participants had been charged with criminal offenses and had been ordered by the court to undergo pretrial evaluations of competency. The results supported the hypothesis that the PAI is a valid measure of psychopathy. A correlation was found
between the PCL:SV and the ANT scale of the PAI. The PCL:SV total scores had higher
correlations with ANT than with the other PAI scales. In the second study, Edens et al.
administered the PAI and the PCL-R to 55 male inmates similar in profile to the subjects
in the first study. The results again supported the hypothesis of the ANT subscale of the
PAI as a valid measure of psychopathy.

   Skopp, Edens, and Ruiz (2007) reviewed PAI scores and file data on 113 female
state prisoners to evaluate effectiveness of the PAI at predicting institutional misconduct.
In addition to finding several scales correlated with general institutional misconduct, the
authors found elevations of two scales on the PAI, ANT and VPI, to be positively
correlated with violent institutional misconduct. The authors also evaluated correlations
of a few actuarial variables with violent misconduct. Prior incarcerations and history of
violent behavior significantly correlated with violent misconduct, whereas age did not
significantly correlate with the variable.

   Walters et al. (2003) reviewed test data and records on 185 federal inmates who
were assessed in forensic evaluations and who remained in the BOP for a minimum of
two years after the evaluation. The researchers found the PAI ANT and AGG scales to be
significantly correlated with PCL-R scores. However, only the PAI AGG score
significantly correlated with violent misconduct.

   Walters (2007) reviewed PAI test data and disciplinary records on 120 male
Federal inmates to evaluate the effectiveness of the PAI in predicting aggressive
misconduct. The author found the AGG scale to be moderately correlated with violent
misconduct. The ANT scale was not a significant predictor of violent misconduct.
In summary, existing research supported the PAI as a reliable predictor of violent misconduct. In addition, the PAI scales found to be most predictive of violent behavior also have positive correlations with the PCL measures. It is therefore likely that these measures share common variance in predicting violent behavior.
PRESENT STUDY

The purpose of this study was to add to the developing correctional risk assessment literature base. The intent was to develop a screening model for correctional staff to use for classifying inmates based on violence potential. Although there are many tools for predicting violent behavior, few of them were designed or thoroughly evaluated for use in predicting risk of violent behavior during time incarcerated. Furthermore, what has been evaluated are either individual variables or methods that involve professional interpretation, such as formal psychological assessments or discriminant function models. In this study, the researcher gathered available empirically supported predictors under the expectation that the supported predictors could combine in a meaningful way and that combining validated predictors could lead to improved accuracy of inmate classification.

This study included an examination of relevant research on demographic, historical, and clinical variables, in addition to utility of existing assessment measures for predicting violent behavior. Upon completion of the literature review, research directly related to institutional violence was combined to identify empirically supported institutional risk prediction variables. The researcher synthesized these variables into a proposed checklist of risk assessment guidelines expected to be quickly and easily usable by laypersons involved in classifying management and supervision levels of prisoners.
METHOD

Search Strategy and Review of the Literature

This researcher utilized standard literature search procedures to locate relevant studies. Searches were conducted in the PsycINFO (1872-2007), Criminal Justice Periodicals (1981-2007), and Dissertation Abstracts Online (1980-2007) with the following key words: viol*, assault, aggress*, risk assessment, institution, prison, and jail. Citations and the reference lists on these articles were then searched to identify additional relevant studies. Both published and unpublished sources were included in the literature search.

Relevant information obtained for institutional risk for violence through the literature search was organized into topic areas by types of violence risk assessment and reviewed to determine factors that may contribute to accurate prediction of risk for violence during incarceration. The topic areas included actuarial risk assessment, clinical risk assessment, psychopathy, and available violence risk assessment tools. The researcher grouped and tabulated variables, empirically evaluated for possible correlations with violent institutional misconduct, to assess for support and consistency as predictors of violent misconduct.

Analysis

Data for variables that appeared sufficiently evaluated and supported in the literature were collected into tables for comparison of effect sizes. Due to the variability in reporting methods, populations, assessment methods, and operational definitions of variables, a full meta-analytic evaluation was not practical. The researcher informally
compared effect sizes for consistently supported variables for relative predictive accuracy and power.

Screening Guideline Development

Predictors found to have significantly contributed to predictive accuracy in the literature were condensed into a proposed screening guideline form, intended to be easily used and understood by laypersons conducting jail or prison intake evaluations. Greater weight was given on the form to variables with consistent and larger effect sizes in violent misconduct prediction, found in the literature. As discussed previously, the researcher excluded race as a predictor variable due to legal and ethical concerns.
RESULTS

The researcher discussed several variables related to violence risk assessment in the literature review of this study. Below is a summary of the results of the literature review that applied directly to risk for inmate violence.

Age

Age was consistently found to be an effective predictor of violent misconduct in the available studies. Reviewed studies generally showed strong effect sizes for age as a predictor of violent misconduct (see Appendix A). The correlations between age and inmate violence were typically negative, whereas risk decreases as age increases. Five of twenty reviewed studies did not show a significant correlation between age and violent behavior. Of those studies, three of the non-significant results may have been due to population differences because two studies included inpatient populations (Novaco & Taylor, 2004; Young et al., 2004) and one included a female population (Skopp et al., 2007). The two remaining studies that did not show a significant correlation did not include the length of time for the follow-up period (Berg & DeLisi, 2006; Shaffer, Waters, & Adams). As discussed previously, shorter follow-up periods may have different predictor variables than do longer periods, whereas immediate risk may be more effectively predicted with current factors such as psychological distress or active psychosis (Douglas et al., 1999; Mossman, 1994; Young et al., 1999). Based on these findings, the researcher added age to the proposed screening guidelines.
Race and Gender

As discussed previously, reviewed studies consistently show race as an effective violence prediction variable. However, legal and ethical standards preclude its use in classifying inmates. Further research is needed to determine whether racial differences in violent behavior risk may be the result of other factors that tend to be more or less common to groups of inmates when divided along racial lines. Not the least of these possible factors could be a history of underprivileged group status with an adversarial view of authority or gang membership.

Although few of the reviewed studies include both male and female inmate populations, those reviewed included some differences in risk factors between men and women (Berg & DeLisi, 2006; Camp et al., 2003; Harer & Langan, 2001; Haun, 2006). However, no clear trends were evident in the differences in these studies. Additionally, no precedent was found to determine whether the legal and ethical guidelines precluding use of race in classifying inmates would also apply to classification based on gender. It does seem probable, however, that the guidelines would apply. Fortunately, male and female inmates are typically housed in different prison populations, making violence classification based on gender unnecessary at this time. Further investigation of gender differences in violence classification is therefore beyond the scope of this study.

Mental Illness

Initial consideration of the results in reviewed studies related to mental health variables (see Appendix B) may give the impression of inconsistent results, making the use of these factors impractical. However, the results do appear to allow some level of agreement based on groups of mental health variables. First, several researchers found
positive correlations between level of risk for inmate violence and active symptoms of psychological disturbance from major medical disorders, including general confusion, paranoia, mania, and others (Baskin et al., 1991; McNiel et al., 2003). It makes intuitive sense for the presence of symptoms such as these to increase problematic behaviors due to impaired thinking or decreased inhibitions. In the absence of active disturbance, diagnosis of a major mental disorder appears associated with decreased risk for violence. Second, several studies included mental health variables other than indicators of active disturbance as positively correlated with risk for violence appear to have included factors common among personality disordered individuals (Gillespie, 2005; Offer, 1997). Examples of these factors include variances in self-esteem, attachment style, and suspiciousness of others. Given that studies specifically investigating presence of a personality disorder such as Borderline Personality Disorder or Antisocial Personality Disorder found them to be associated with increased risk for violence (Young et al., 2004), it is plausible these may be a contributing risk factor. Less clear are findings of two studies that indicate a history of mental health diagnoses and/or usage history associated with increased violence risk (Shaffer et al., 1994; Toch & Adams, 1986). These studies do not provide information about current mental state. As a result, it seems plausible that active disturbance could be a factor. Additionally, presence of a personality disorder could lead to increased usage of mental health treatment. Future research may provide more information regarding this variable. Thus, the researcher chose two mental health variables for inclusion in the proposed screening guidelines: observable active psychological disturbance (such as noticeable confusion, bizarre behavior, or expressed
paranoia) and documented diagnosis of a personality disorder are included as positive predictors of risk for inmate violence.

**Substance Abuse**

Reviewed research evaluating substance abuse and risk for inmate violent behavior contained inconsistent and contradictory results. As a result, no clear trends could be identified at this time. Substance abuse was not included in the proposed screening guidelines.

**Criminal and Behavior History**

Behavior history has consistently been shown to be a significant predictor of risk for violent misconduct with strong effect sizes (see Appendix C). Inmates who engaged in past violent misconduct are markedly more likely to engage in further violent misconduct. An interesting pattern was seen between violent criminal history and risk for violent misconduct. Although prisoners with multiple violent offenses in their history are more likely to engage in future violent behavior, prisoners incarcerated for a violent index offense with no other violent crime history were found less likely to commit violent misconduct than both multiple violent offenders and prisoners without a violent offense history (Harer & Langan, 2001; Walters & Geyer, 2005). As a result, three variables related to criminal and behavior history were included in the proposed screening guidelines. History of violent misconduct and multiple violent offense history were included as risk factors, whereas incarceration for a violent offense without other violence history was included as a protective factor.
Gang Membership

Five of the six reviewed studies that evaluated prison gang membership (see Appendix D) found prison gang membership was positively correlated with increased violent misconduct. Obtained effect sizes were strong. One study did not show gang membership to be correlated with violent misconduct (Berg & DeLisi, 2006). Berg and DeLisi used a BOP classification of security threat groups for the gang criteria. In this author’s experience in the BOP, security threat groups are a specific subset of prison gangs that have been documented as engaging in disruptive and organized criminal activity. Inmates associated with these groups must be verified before being considered a member of the group. Therefore, it remains possible that the results of the discordant study may be an isolated finding or that the narrowed definition of gang membership was a confounding variable. Prison gang membership was included in the proposed screening guidelines.

Social and Personal Achievement

Consideration of the reviewed studies related to social and personal achievement and violent misconduct (see Appendix E) resulted in identification of a few patterns. First, educational attainment has consistently demonstrated to be negatively correlated with violent misconduct, in that as educational attainment increases risk for violent misconduct decreases. Second, a correlation has been found between social connectivity and risk for violent misconduct. As connection with social support increases (i.e., frequent communication and social visits), risk for violence decreases. Likewise, prisoners reporting higher levels of disconnectedness or feelings of alienation are at higher risk for violent misconduct. Results of studies evaluating marital status as a
predictor of violent misconduct were contradictory. As a result, educational attainment and social connectedness were included, as negative predictors of risk for violence, in the proposed screening guidelines; whereas marital status was not included.

Anger and Aggression

Although there has been considerable research on anger and aggression in general violence risk assessment, reviewed research (see Appendix F) contained just two studies on prisoners and two studies on offenders in forensic inpatient treatment. Further, the methods used by the researchers to assess these factors are closely related to mental health variables discussed above, namely paranoia and personality disorder traits. Therefore, based on the current reviewed research, anger and aggression were not included as separate variables in the projected screening guidelines. It is expected that traits measured by these studies would be accounted for by the included mental health variables.

Psychopathy and Antisocial Personality Disorder

As with general risk assessment literature, reviewed studies evaluating a link between psychopathy or antisocial personality and predicting violent misconduct show a strong and consistent connection (see Appendix G). Psychopathy and Antisocial Personality Disorder are generally considered to be separate constructs (Hare, 1996). However, measurements for both Antisocial Personality Disorder and Psychopathy appear to be positively correlated, particularly the Hare measures and relevant scales on the PAI (Edens et al., 2000; Salekin et al., 1997; Walters et al., 2003). Due to the strong and consistent effect sizes found for these variables, they were included in the proposed screening guidelines. However, due to the apparent overlap in measurement these were
added as a single scored variable, where presence of either construct through documented diagnosis or assessment scores (PAI, PCL measures, or PPI) meets the scoring criteria. The researcher’s combination of these measures in the proposed screening guidelines is not intended to equate the constructs of Antisocial Personality Disorder and Psychopathy. Rather, the researcher intends only to compensate for the degree overlap in current assessment measures.

Other Assessment Measures

Several assessment tools have been shown as effective predictors of violent recidivism, but there is a dearth of research evaluating the effectiveness of these measures in predicting violent prison misconduct. Initial research with the LSI-R, PICTS, and SAQ has shown promising results that may warrant consideration of these measures for addition to the proposed guidelines if additional research supports the results. These measures were not included in the current proposed screening guidelines because of the current lack of directly relevant research.

Summary

In summary, several variables were supported by the literature as predictors of violent misconduct. See Figure 1 for the proposed screening guidelines form. These variables were: age (increasing age = decreased risk), active psychological disturbance (presence of disturbance = increased risk), personality disorder diagnosis (presence of personality disorder diagnosis other than Antisocial Personality Disorder = increased risk). Additionally, history of violent misconduct while incarcerated (increased history of prison violence = increased risk), multiple violent offense history (increasing violence history = increased risk), single violence history (history of only one violent offense =
decreased risk), prison gang membership (gang membership = increased risk). Finally, educational attainment (higher attainment = decreased risk), social connectivity (increased social connectivity = decreased risk), and psychopathy or Antisocial Personality Disorder (presence = increased risk).
### Inmate Violence Screening Guide (Proposed Example)

<table>
<thead>
<tr>
<th>Risk/Protective Factor</th>
<th>Score</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong> <em>(expected cutoff between 25 and 31)</em></td>
<td>Above Cutoff</td>
<td>Below Cutoff</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>Active psychological disturbance (observable)</td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>Personality disorder (documented, not including Antisocial Personality Disorder)</td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>History of violent misconduct while incarcerated</td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>History of multiple violent offenses</td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>History of single violent offense</td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Prison gang membership</td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>Educational attainment <em>(high school diploma or equivalent)</em></td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Connected to social support in the community <em>(family, friends, spouse, etc.)</em></td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Psychopathy or Antisocial Personality Disorder diagnosis <em>(documented)</em></td>
<td>Not Present</td>
<td>Present</td>
</tr>
<tr>
<td>OR</td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>PCL-R/PCL-SV <em>(score in clinical elevation range)</em></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>PAI score for AGG and/or ANT scales above 70</td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>PPI score in clinical elevation range</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score =**
SUMMARY AND CONCLUSIONS

This study was conducted as a review and extension of the correctional risk assessment research base. The purpose was to identify trends in the existing research and synthesize those trends, if possible, into a scheme for classifying prisoners based on risk for violent misconduct. Because prisoner intake screenings are typically done by laypersons, an assumption for inclusion of variables was that they be developed at a technical level that could be completed and interpreted by laypersons. This section presents the results and expected implications of this analysis.

Demographic Variables

On the level of static inmate demographics, three variables stood out as consistently supported in the literature: age, race, and gender. Younger age, minority race, and male gender were all predictive of increased risk for violent misconduct. However, age was the only variable usable for inmate classification. Although race is consistently a strong predictor of violent behavior, legal and ethical precedents prevent race from use in decision making for classifying inmates. This author did not find any precedent regarding use gender in this manner, though it is expected ethical guidelines would similarly prevent using gender for such classification. Fortunately, prisons generally house male and female inmates separately, rendering attempts at using gender for violence risk classification as unnecessary.

Mental Health Factors

Upon initial review of relevant studies, the existing research on mental health as a predictor for violent misconduct appeared contradictory. However, upon further consideration, trends in the data appeared to emerge. Active psychological disturbance
from a major mental disorder was found to be a consistent predictor of increased risk for violent misconduct. Additionally, presence of traits typically associated with personality disorders was also found to be predictive of increased risk. It appears possible, based on the existing research, that existence of a chronic major mental disorder without active disturbance is associated with decreased risk for violent misconduct. Current research is not sufficient to make that conclusion, but future research is likely to confirm or reject this possibility. Therefore, only presence of active psychological disturbance and presence of a personality disorder were included.

Criminal and Behavioral History

As with research on general violence risk assessment, past behavior has been demonstrated to be a strong and consistent predictor of violent misconduct. Prisoners with history of engaging in prior prison violence are markedly more likely to engage in future violent misconduct. Data on criminal history were less straightforward. Initial evaluations identified contradictory studies, with some showing violent criminal history as a predictor of increased risk and others showing criminal history as a predictor of reduced risk. Further evaluation identified an interesting relationship. Criminal histories involving only a single violent offense were associated with decreased risk for violent misconduct. Multiple violent offenses, however, were markedly associated with increased risk. Based on these findings, the researcher added history of a single violent offense as a protective factor and history of multiple violent offenses as a risk factor on the proposed screening guidelines.
Prison Gang Membership

Membership in prison gangs was found to be consistently and strongly associated with increased risk for violent misconduct. Along with age, prison gang membership was typically the strongest predictor of violence risk in reviewed studies. It was included in the proposed screening guidelines.

Social and Personal Achievement

Several variables related to social and personal achievement were evaluated in the literature. The majority of these variables, such as marital status, employment history, and parental status were either not sufficiently evaluated to make conclusions or yielded contradictory results. Two variables were found to be consistent predictors: social connectivity and educational attainment. Social connectivity (i.e., family contact, social visits, etc.) and level of educational attainment were both negatively associated with violent misconduct, whereas increased social connection and higher levels of educational attainment were both predictive of decreased risk for violent misconduct. Both variables were included in the proposed screening guidelines as protective factors.

Psychopathy and Antisocial Orientation

Psychopathy and antisocial orientation have both been consistently found to be predictive of risk for violence in general risk assessment literature. Reviewed research on risk for violent misconduct in prison has paralleled those findings. These constructs appeared to have sufficient overlap in their measurement; the researcher added both to the proposed screening guidelines, but as a single variable to avoid overweighting what may be a shared component of these constructs.
Limitations of the Current Study

The present study contains several limitations. First, although it extends the literature by synthesizing existing findings into a single prediction scheme, this study was not an empirical evaluation of violence prediction factors. Second, although this study has taken into account effect sizes of existing research, the nature of the studies and reported effect sizes made attempting a full meta-analysis impractical. A third limitation is that conducting normalization and validation of the proposed screening guidelines for violent misconduct was beyond the scope of this study.

Future Directions

As stated previously, some possible predictors of violent behavior have not been sufficiently studied to make conclusions about their validity for use in predicting violent misconduct in prisons. In particular, several demographic and achievement variables such as socio-economic status, parental status, marital status, work history, in addition to mental health variables, require further evaluation of predictive validity for assessing violent prison misconduct. Additionally, although many tools for violence risk assessment exist little research has been done on the utility of those instruments in predicting violent misconduct.

In this study, the researcher proposed screening guidelines for risk of violent misconduct based on existing literature. However, the researcher did not conduct normalization and validation of the instrument. Therefore, a recommendation for future research is to conduct such a study. One possible method would be to have staff members at a prison reception complete the form for newly arrived inmates. Disciplinary records of violent misconduct for inmates in the sample group could then be monitored for a follow-
up period and compared with form ratings. Simple univariate analyses on the items in the
guide and multiple regressions could be used to identify variables that demonstrate
predictive accuracy. Comparison of the univariate effect sizes could adjust item point
weighting as needed.

Conclusions

The results of the current study provides an extension of the correctional violence
risk assessment literature by combining fragmented information on variables from
existing studies and placing them into a single predictive scheme. Ten empirically
supported variables for predicting violent misconduct were identified, all of which could
be assessed by laypersons in a short period of time during routine intake screenings at
institutions. The inclusion of measures such as the PCL, measures are not expected to be
done at the time of intake, but rather scored if the inmate arrives at the institution with
documented prior assessment with the measures. However, the PAI and PPI are measures
that could be included in a standard intake process, as they may be administered in a
group setting. The proposed screening guidelines have not been empirically validated in
the current form. However, the derivation of the variables from existing research
increases likelihood that a validation study would support its use as a violence prediction
tool.
REFERENCES


Daffern, M., Ogloff, J. R. P., Ferguson, & Thompson, L. (2005). Assessing risk for aggression in a forensic psychiatric hospital using the level of service inventory-


# Appendix A: Relationship Between Age and Violent Misconduct

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Association, Correlation, Regression</th>
<th>Comparison of Mean Differences</th>
<th>Hazard and Odds Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berg &amp; DeLisi (2006)</td>
<td>831 male and 174 female state prisoners</td>
<td>Not significantly correlated in negative binomial regression. Males: ( b = .018, p = .155 ) Females: ( b = -.031, p = .440 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Berk, Kriegl, &amp; Baek (2006)</td>
<td>9,662 male state prisoners</td>
<td>Random forests analysis identified age as a salient predictor. Value not reported.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camp, Gaes, Langan, &amp; Saylor</td>
<td>121,051 male and female Federal inmates</td>
<td>Age at commitment ( r = -.42, p &lt; .05 ) Age at first arrest ( r = -.09, N. S. )</td>
<td></td>
<td>OR .96, ( p &lt; .05 )</td>
</tr>
<tr>
<td>Cooper &amp; Werner (1990)</td>
<td>33 male Federal inmates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cunningham &amp; Sorensen (2007)</td>
<td>24, 517 male high security state prisoners</td>
<td>under 21 years, ( \beta = 1.265, SE = .087, p = .001 ); 21-25 years ( \beta = .490, SE = .067, p = .001 ); 26-30 years ( \beta = .223, SE = .064, p = .001 ); 36-40 years ( \beta = -.143, SE = .067, p = .034 ); over 40 years ( \beta = -.609, SE = .064, p = .001 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gendreau, Googin, &amp; Law (1997)</td>
<td>Meta analysis on 39 studies</td>
<td>Reports correlation with violent misconduct, specific value not reported.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gillespie (2005)</td>
<td>688 male state prisoners</td>
<td>Multiple regression. ( R^2 = -.01, p &lt; .05 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harer &amp; Langan (2001)</td>
<td>24,765 female and 177,767 male Federal inmates</td>
<td>Parameter est. = .417, SE = .012</td>
<td></td>
<td>HR = 1.517, ( p &lt; .05 )</td>
</tr>
<tr>
<td>Haun (2007)</td>
<td>17,054 male and female state prisoners</td>
<td></td>
<td></td>
<td>For age at or below 31, OR = 2.5</td>
</tr>
</tbody>
</table>
### Appendix A: Relationship Between Age and Violent Misconduct (continued)

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Association, Correlation, Regression</th>
<th>Effect reported as Comparison of Mean Differences</th>
<th>Hazard and Odds Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Fisher-Giorlando, &amp; Mo (2005)</td>
<td>9,107 male state prisoners</td>
<td>Multiple 2-level regression (age in level 1) ( b = -.0993, SE = .0063, p &lt; .001 )</td>
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<tr>
<td>Lahm (2001)</td>
<td>Over 1,000 state inmates</td>
<td>Negatively correlated, data not available</td>
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</tr>
<tr>
<td>Mills &amp; Kroner (2003)</td>
<td>208 male Federal prisoners (139 violent sex offenders and 69 child sex offenders)</td>
<td>Multiple regression violent sex offenders ( \beta = -.17, p &lt; .05 ); child sex offenders ( \beta = -.27, p &lt; .05 )</td>
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<td></td>
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<tr>
<td>Novaco &amp; Taylor (2004)</td>
<td>129 developmentally disabled forensic inpatients</td>
<td>Not significant at ( p &lt; .05 ) level in first step of hierarchical regression ( \beta = -.157 )</td>
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<td></td>
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<tr>
<td>Shaffer, Waters, &amp; Adams (1994)</td>
<td>150 male state prisoners</td>
<td>Age was not significantly correlated. Value not reported.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skopp, Edens, &amp; Ruiz (2007)</td>
<td>113 female state prisoners</td>
<td>Bivariate correlation was not significant at ( p &lt; .05, r = -.06 )</td>
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<tr>
<td>Sorensen &amp; Cunningham (2007)</td>
<td>1,440 male prisoners incarcerated for murder</td>
<td>Logistic regression age below 21 ( r = .980, p &lt; .001 ) age over 40 ( r = -.770, p &lt; .01 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young, Justice, &amp; Erdberg (2004)</td>
<td>222 forensic inpatients</td>
<td>Age not correlated with assault in prison, value not reported. For assault in prison psychiatric treatment Assaulters ( M = 29.81, SD = 5.91 ); Non-Assaulters ( M = 33.60, SD = 8.32 ); ( t(220) = 2.91, p = .01 )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix B: Relationship Between Mental Health and Violent Misconduct

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Effect reported as</th>
<th>Comparison of Mean Differences and Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baskin, Sommers, &amp; Steadman (1991)</td>
<td>3,332 male state inmates</td>
<td>Logit Analysis:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reports of general confusion and: Viol. Toward inmates,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$r = .178$, $p &lt; .001$ Viol. Toward staff, $r = .227$,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$p &lt; .001$</td>
<td></td>
</tr>
<tr>
<td>Berk, Kriegler, &amp; Baek (2006)</td>
<td>9,662 male state prisoners</td>
<td>Random forests</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>analysis did not identify mental illness as a salient</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>predictor. Value not reported.</td>
<td></td>
</tr>
<tr>
<td>Gillespie (2005)</td>
<td>688 male state prisoners</td>
<td>Self-esteem, $R^2 = -.81$, $p &lt; .05$</td>
<td></td>
</tr>
<tr>
<td>Gray, Hill, McGleish, Timmons,</td>
<td>34 mentally disordered</td>
<td>Mental illness as measured by BPRS $R = .61$, $p &lt; .001$</td>
<td>ROCAUC = .84 $p &lt; .001$, OR = 4.00</td>
</tr>
<tr>
<td>MacCulloch, &amp; Snowden (2003)</td>
<td>prisoners</td>
<td></td>
<td>$p = .05$</td>
</tr>
<tr>
<td>Haun (2007)</td>
<td>17,054 male and female state</td>
<td></td>
<td>Mental Illness as measured by PAI scores, OR = 1.48</td>
</tr>
<tr>
<td>McNiel, Eisner, &amp; Binder (2003)</td>
<td>110 forensic psychiatric</td>
<td>Paranoia MMPI-2 Pa1 scale, $r = .39$, $p &lt; .01$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inpatients</td>
<td>EHAS $r = .25$, $p &lt; .01$ Dx of Depressive disorder $r = -$27, $p &lt;$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Offer (1997)</td>
<td>Unknown</td>
<td>Attach significantly correlated. Statistical data not</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>available.</td>
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</tr>
<tr>
<td>Shaffer, Waters, &amp; Adams (1994)</td>
<td>150 male state prisoners</td>
<td>Part of a discriminant function significantly</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>correlated. Data for individual variables not reported.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B: Relationship Between Mental Health and Violent Misconduct (continued)

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Association, Correlation, Regression</th>
<th>Effect reported as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young, Justice, &amp; Erdberg (2004)</td>
<td>222 forensic inpatients</td>
<td>[333x570] Assault in prison: Borderline P.D., Assaulters n = 29 M = 18% Non-Assaulters n = 4 M = 7%, χ²(1, N = 213) = 4.36, p = .04; Neurological Injury Hx, Assaulters n = 96 M = 71% Non-Assaulters n = 22 M = 48%, χ²(1, N = 181) = 7.95, p = .01; Attachment, Assaulters n = 134 M = 1.87 SD = 1.71 Non-Assaulters n = 62 M = 2.45 SD = 2.03, t(194) = −2.11, p = 0.03 Assault in prison psychiatric treatment: No Major Mental D. O., assaulters n = 10 M = 39% non-assaulters n = 41 M = 22%, χ²(1, N = 216) = 3.29, p = .05; Borderline P.D., assaulters n = 8 M = 32% non-assaulters n = 33 M = 18%, χ²(1, N = 216) = 4.47, p = .03; Attachment, assaulters n = 26 M = 1.58 SD = 1.69, non-assaulters n = 196 M = 2.16 SD = 2.31, t(220) = −1.95, p = 0.05</td>
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</table>
### Appendix C: Relationship Between Past Behavior and Violent Misconduct

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Effect reported as</th>
<th>Comparison of Mean Differences</th>
<th>Hazard and Odds Ratios</th>
</tr>
</thead>
</table>
Females: offense severity $b = -1.91$, $z = 2.99, p = .003$; confinement history $b = 1.71, z = 2.52, p = .012$; time served $b = 2.25, z = 3.34, p = .001$ |  |  |
<p>| Berk, Kriegler, &amp; Baek (2006) | 9,662 male state prisoners | Random forests analysis identified sentence length as a salient predictor. Value not reported. |  |  |
| Camp, Gaes, Langan, &amp; Saylor (2003) | 121,051 male and female Federal inmates |  |  |  |
| Cunningham &amp; Sorensen (2007) | 24,517 male high security state prisoners | Prior prison term $\beta = .299$, $SE = .042$, $p = .001$; history of dangerous misconduct $\beta = .756$, $SE = .042$, $p = .001$ |  |  |
| Gendreau, Googin, &amp; Law (1997) | 688 male state prisoners | Meta analysis Reports criminal history correlated with violent misconduct, specific value not reported. |  |  |
| Gillespie (2005) | 688 male state prisoners | Prior violence $R^2 = .14, p &lt; .05$ |  |  |
| Harer &amp; Langan (2001) | 24,765 female and 177,767 male Federal inmates | Current offense parameter estimate = .083, $SE = .007, p &lt; .05$; history of escape parameter estimate = .051, $SE = .014, p &lt; .05$; history of violence parameter estimate = .086, $SE = .005, p &lt; .05$; criminal history parameter estimate = .165, $SE = .008, p &lt; .05$ | Current offense hazard ratio = 1.086, History of escape hazard ratio = 1.052, History of violence hazard ratio = 1.090, Criminal history hazard ratio = 1.094 |  |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Association, Correlation, Regression</th>
<th>Effect reported as Comparison of Mean Differences</th>
<th>Hazard and Odds Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haun (2007)</td>
<td>17,054 male and female state prisoners</td>
<td>Length of time incarcerated Pearson’s $r = -.041, p &lt; .001$</td>
<td>Property crime positive OR = 1.59 Person crime negative OR = 1.52 Previous incarceration positive OR = 1.4</td>
<td></td>
</tr>
<tr>
<td>Jiang, Fisher-Giorlando, &amp; Mo (2005)</td>
<td>9,107 male state prisoners</td>
<td>Multiple 2-level regression Criminal history $b = .1774, SE = .0291, p &lt; .001$ Sentence length $b = .0002, SE = .00007, p &lt; .05$</td>
<td></td>
<td></td>
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<tr>
<td>Lahm (2001)</td>
<td>Over 1,000 state inmates</td>
<td>History of aggressive behavior correlated. Data not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mossman (1994)</td>
<td>Meta-analysis on 44 studies</td>
<td>Receiver operating characteristic analysis. Past behavior AUC = .7797, $SE = .0120, p &lt; 10^{-6}$</td>
<td></td>
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<tr>
<td>Roske (1985)</td>
<td>Data not available</td>
<td>Criminal history and history of violent behavior correlated with violent misconduct.</td>
<td></td>
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<tr>
<td>Shaffer, Waters, &amp; Adams (1994)</td>
<td>150 male state prisoners</td>
<td>Violence and juvenile arrest history part of discriminant function. Individual variable values not reported.</td>
<td></td>
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<tr>
<td>Skopp, Edens, &amp; Ruiz (2007)</td>
<td>113 female state prisoners</td>
<td>History of incarcerations $r = .28, p &lt; .01$; violence history $r = .28, p &lt; .01$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verona &amp; Carbonell (2000)</td>
<td>186 female state prisoners</td>
<td>Planned orthogonal comparisons. History of violence $F = 10.27, p &lt; .05$</td>
<td></td>
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</table>
## Appendix C: Relationship Between Past Behavior and Violent Misconduct (continued)

<table>
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<th>Study</th>
<th>Population</th>
<th>Association, Correlation, Regression</th>
<th>Effect reported as Comparison of Mean Differences</th>
<th>Hazard and Odds Ratios</th>
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</thead>
<tbody>
<tr>
<td>Verona &amp; Carbonell (2000)</td>
<td>186 female state prisoners</td>
<td></td>
<td>Planned orthogonal comparisons. History of violence $F = 10.27, p &lt; .05$</td>
<td></td>
</tr>
<tr>
<td>Walters &amp; Geyer (2005)</td>
<td>136 male Federal prisoners</td>
<td>Type of index offense $r = .24, p &lt; .01$</td>
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</tr>
<tr>
<td>Young, Justice, &amp; Erdberg (2004)</td>
<td>222 forensic inpatients</td>
<td>History of youth authority placement: Prison $\chi^2(1, 176)= 9.56, p = .01$</td>
<td>Prison psychiatric treatment N. S., value not reported.</td>
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</table>
**Appendix D: Relationship Between Prison Gang Membership and Violent Misconduct**

<table>
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<th>Study</th>
<th>Population</th>
<th>Effect reported as</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Males: not sig., $b = .237$, $z = .36$, $p = .722$</td>
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<tr>
<td></td>
<td></td>
<td>Females: $b = 5.04$, $z = 3.29$, $p = .001$</td>
</tr>
<tr>
<td>Berk, Kriegler, &amp; Baek (2006)</td>
<td>9,662 male state prisoners</td>
<td>Random forests analysis identified gang membership as a salient predictor. Value not reported.</td>
</tr>
<tr>
<td>Cunningham &amp; Sorensen (2007)</td>
<td>24,517 male high security state prisoners</td>
<td>$\beta = .298$, $SE = .072$, $p = .001$</td>
</tr>
<tr>
<td>Haun (2007)</td>
<td>17,054 male and female state prisoners</td>
<td>OR = 3.42</td>
</tr>
<tr>
<td>Placido, Simon, Witte, Gu, &amp; Wong (2006)</td>
<td>160 Male Federal prisoners</td>
<td>Untreated gang $M = .25$, $SD = .62$ Treated gang $M = .08$, $SD = .11$ Untreated non-gang $M = .04$, $SD = .08$ Treated non-gang $M = .04$, $SD = .10$</td>
</tr>
<tr>
<td>Study</td>
<td>Population</td>
<td>Association, Correlation, Regression</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
</tbody>
</table>
Females: educational attainment $b = 1.86, z = 2.09, p = .001$ |
| Cooper & Werner (1990)      | 33 male Federal inmates                | Educational attainment not significantly correlated $r = .05$ |
| Gendreau, Googin, & Law (1997) | Meta analysis                        | Reports correlation with violent misconduct, type of social achievement and specific values for violent misconduct not reported. |
| Harer & Langan (2001)       | 24,765 female and 177,767 male Federal inmates | Education level at admission: parameter estimate $= .090, SE = .012$ | Education level at admission hazard ratio $= .950, p < .05$ |
| Jiang & Fisher-Giorlando (2002) | 186 male state prisoners              | Having children $\beta = .444, SE = .197, OR = 1.559, p < .05$; Marital status as divorced $\beta = -2.179, SE = 1.075, OR = .113, p < .05$ |
| Shaffer, Waters, & Adams (1994) | 150 male state prisoners              | Marital status, where married inmates less likely to be violent. Specific variable data not reported. |
| Walters & Geyer (2005)      | 136 male Federal prisoners            | Education $r = .15, p < .05$                      |                                         |
### Appendix F: Relationship Between Anger or Aggression and Violent Misconduct

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Effect reported as Association, Correlation, Regression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gillespie (2005)</td>
<td>688 male state prisoners</td>
<td>Aggressive personality scale: $R^2 = .06, p &lt; .05$</td>
</tr>
<tr>
<td>McNiel, Eisner, &amp; Binder (2003)</td>
<td>110 forensic psychiatric inpatients</td>
<td>Kendall’s Tau for aggressive attributional style as measured by:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NAS-A $\tau = .42$, TCO $\tau = .28$, MMPI-2 Pa scale $\tau = .39$, and EHAS $\tau = .25$. $p &lt; .01$ for all</td>
</tr>
<tr>
<td>Novaco &amp; Taylor (2004)</td>
<td>129 developmentally disabled forensic inpatients in the United Kingdom.</td>
<td>WARS $R^2 = .28$; STAXI, Mult. values, highest value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anger Expression $R^2 = .37$; NAS total $R^2 = .43$; PI $R^2 = .20$.</td>
</tr>
</tbody>
</table>
## Appendix G: Relationship Between Psychopathy or Antisocial Personality and Violent Misconduct

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Effect reported as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray, Hill, McGleish, Timmons, MacCulloch, and Snowden (2003)</td>
<td>34 mentally disordered prisoners in the U.K.</td>
<td>PCL–R Total $r = .35$, $p &lt; .05$, AUC = .70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCL–R Factor I $r = .2$, N. S., AUC = .63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCL–R Factor II $r = .36$, $p &lt; .05$, AUC = .69</td>
</tr>
<tr>
<td>Guy, Edens, Anthony, and Douglas (2005)</td>
<td>Meta-analysis of 34 studies with a combined total of 5,381 participants</td>
<td>95% confidence intervals for mean weighted effect sizes of the PCL measures: Total = .14-.21, Factor I = .10-.18, and Factor II = .10-.19.</td>
</tr>
<tr>
<td>Haun (2007)</td>
<td>17,054 male and female state prisoners</td>
<td>PAI ANT OR = 1.95, PAI AGG OR = 2.09</td>
</tr>
<tr>
<td>Hill, Rogers, and Bickford (1996)</td>
<td>55 Forensic Inpatients</td>
<td>PCL:SV $\beta = .69$, $R^2 = .48$</td>
</tr>
<tr>
<td>McNiel, Gregory, Lam, Binder, and Sullivan (2003)</td>
<td>100 Forensic inpatients</td>
<td>PCL:SV Total $r = .16$, N. S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCL:SV Part 1 $r = .23$, $p &lt; .01$</td>
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<tr>
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<td></td>
<td>PCL:SV Part 2 $r = .07$, N. S.</td>
</tr>
<tr>
<td>Mills and Kroner (2003)</td>
<td>208 male Federal prisoners (139 violent sex offenders and 69 child sex offenders)</td>
<td>Antisocial orientation as measured by BPI subscales. Child sex offenders: INP $\beta = .27$, $p &lt; .05$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Violent sex offenders: ALN $\beta = .31$, $p &lt; .01$; IME $\beta = -.21$, $p &lt; .05$</td>
</tr>
</tbody>
</table>
### Appendix G: Relationship Between Psychopathy or Antisocial Personality and Violent Misconduct (continued)

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Effect reported as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skopp, Edens, and Ruiz (2007)</td>
<td>113 female state prisoners</td>
<td>PAI ANT $r = .27$, $p &lt; .01$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAI AGG $r = .07$, N. S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAI VPI $r = .19$, $p &lt; .05$</td>
</tr>
<tr>
<td>Walters, Duncan, and Geyer (2003)</td>
<td>185 Federal prisoners – post forensic evaluation.</td>
<td>PCL-R Total $r_{pb} = .11$, N.S., AUC = .575</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCL-R Factor I $r_{pb} = .08$, N. S., AUC = .542</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCL-R Factor II $r_{pb} = .13$, N. S., AUC = .596</td>
</tr>
<tr>
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<td>PAI AGG $r_{pb} = .17$, $p &lt; .05$, AUC = .651</td>
</tr>
<tr>
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<td></td>
<td>PAI ANT $r_{pb} = .12$, N. S.; AUC = .593</td>
</tr>
<tr>
<td>Young, Justice, and Erdberg (2004)</td>
<td>222 forensic inpatients</td>
<td>Assault in prison: PCL-R Factor II score, $t(193) = 2.69, p = .01$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assault in prison psychiatric: PCL-R total score, $\chi^2 = 3.88, p = .04$</td>
</tr>
<tr>
<td>Walters (2007)</td>
<td>120 male Federal prisoners</td>
<td>ROC Analysis.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAI AGG: AUC = .644, $SE = .067$, $p = .035$</td>
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<tr>
<td></td>
<td></td>
<td>PAI ANT: AUC = .619, $SE = .065$, $p = .081$</td>
</tr>
<tr>
<td>Walters and Geyer (2005)</td>
<td>136 male Federal prisoners</td>
<td>PAI ANT $r_{pb} = .23$, $p &lt; .01$</td>
</tr>
<tr>
<td>Walters and Mandell (2007)</td>
<td>136 male Federal prisoners</td>
<td>PCL:SV $r = .16$, N. S.</td>
</tr>
<tr>
<td>Walters (2003)</td>
<td>Meta analysis with 50 studies</td>
<td>95% confidence intervals for mean weighted effect sizes of the PCL measures: Factor I = .07-.18, and Factor II = .16-.27.</td>
</tr>
</tbody>
</table>