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MENTAL ILLNESS, CO-OCCURRING FACTORS AND AGGRESSION AS EXAMINED IN AN AMERICAN PRISON

by

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ABSTRACT

Mental Illness, Co-Occurring Factors and Aggression as Examined in an American Prison

by

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This study examines the relationship between several factors which have been identified in previous research as co-occurring and risk relevant to aggressive behavior. Although many factors have been addressed independently for various reasons in other studies, this study looks at the unique combination of a select few of these variables and their relationship for propensity towards aggression. The results of this study show propensity towards aggression is significant for two specific mental health issues; anxiety, and history of severe head injury. Results also indicate that co-occurring factors are prevalent in this sample and those inmates with prior mental illness are likely to exhibit aggression. Significant correlations for co-occurring factors were also found. Inmates with co-occurring factors may benefit from more purposive treatment and risk assessment to identify and treat their aggressive behavior.

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I dedicate these last many months and countless hours to the memory of my father who was the first to encourage me to be a part of this program and give it my all.

CHAPTER 1

INTRODUCTION

The drive for understanding the possible link between mental illness and aggressive behavior has produced considerable research in the field of criminology (Freidman, 2006; Elbogen, & Johnson, 2009; Swanson, Swartz, Essock, Osher, Wagner, Goodman, Rosenberg, & Meador, 2002; Williams & Arrigo, 2002). More recently research has begun to focus on testing the hypotheses that mental illness is not an independent risk factor for aggressive behavior and bringing forth statistical data that shows more variables are involved, such as co-occurring factors of alcohol and/or substance abuse (Hiday, Swanson, Swartz, Borum, & Wagner, 2001; Friedman, 2006) and history of severe head injury (Vasterling, Constans, & Hanna-Pladdy, 2000; Fann, Burington, Leonetti, Jaffe, Katon, & Thompson, 2004). Studying and identifying co-occurring factors could lead to a more grounded knowledge and understanding of risk factors specifically when dealing with the mentally ill and the prison population.

There is a definite and timely need to look at these co-occurring factors and their possible correlation to aggressive behavior from every angle available. This could help not only by providing a safer prison environment and more ordered communities but also protect the quality of life and decrease negative social stigma for those inmates that suffer from mental illness. It is a popular belief to assume that a mentally ill offender is unpredictable and often this stereotype evokes fear in the community (Bonta, Law, &

Hanson, 1998). But is it fair to assume that 'they' are all the same? Just because a person suffers from mental illness does not mean that person is also a criminal; that assumption would be as fair and accurate as concluding that anyone who has spent time in prison is violent. Individual assessment for mental illness and co-occurring factors is a necessity.

Mentally Ill Offenders in the Prison System

During the deinstitutionalization of the 1970's, researchers began to take notice of the seemingly sudden increase of inmates with prior and current mental health needs. The concept of 'criminalization' among the mentally ill was brought to light by Marc F. Abramson when he wrote about this trend in 1972. He observed through his research that mentally ill persons were much more likely to be subject to arrest and prosecution. Since many people living with mental illness in the community setting are not receiving proper psychiatric care, it is probable that they will eventually end up in the eyes of law enforcement. If the officer is dealing with a mentally ill person, knowingly or unknowingly, he may be unable or unwilling to find placement for the individual in a psychiatric setting due to many obstacles. One obstacle may be the lack of beds in the hospital setting available to aggressive patients; another may be the rigid criteria for involuntary placement in a mental health facility, or the extreme wait times in the psychiatric emergency rooms. The arresting officer may also be worried about a premature release from one of these settings if he feels the person really poses a threat to the community (Lamb & Weinberger 2005).

With limited placement available to those who are perceived as dangerous, a more reliable way of avoiding bureaucratic holds on referrals to mental health facilities could cause police to see arrest as a less troublesome way of dealing with mentally ill offenders

(Teplin, 1983). Teplin (1983) also concluded in her study that the mentally ill were subject to higher arrest rates and that when evidence of mental illness is included in the arresting officer's report, the seriousness of that incident is increased. Adding to the complexity of the situation, in some jurisdictions if a patient has any criminal charge pending, they will not be accepted to hospital placement and arrest is the only other option.

This 'criminalization' can create a label that is hard to shake for someone with mental illness. Even if it is a minor, non-violent offense, once arrested that individual will have a traceable tie to the criminal justice system. This could in turn influence future brushes with the law when the arresting officer sees the person has been arrested before he may not take the time or want to use the scarce resources of the mental health system, but take them straight to jail. If that individual has a number of these petty arrests on their record, it could now be considered by some courts as a 'long criminal history' and influence their sentencing without any reference to their underlying mental illness (Lamb & Weinberger 2005). It does need to be said that for mentally ill offenders that are committing violent crimes, and are showing increased aggression and assaultive behavior, as opposed to the minor petty crimes, incarceration may be the safest place for them as well as the community, provided they are receiving adequate mental health services.

Police Attitudes

Police attitudes towards the mentally ill can play a role in how situations are handled from the moment the call is received. Dispatch codes can trigger heightened alerts among officers by alerting them that the call involves a mentally ill person, leading to inadvertent escalations from officers that have had bad experiences with similar calls,

somewhat ‘labeling’ the situation before they ever arrive. Perceived credibility of a victim is lower and often complaints are taken skeptically when they involve a call with known mental illness (Watson, Corrigan, & Ottari 2004). Research has shown that police training is inadequate in helping officers deal with the mentally ill, and the officers agreed, many of whom requested that more community resources be available to them (Lamb, Weinberger, & Gross 2004). Police decision studies show that police officers do not act maliciously towards the mentally ill in regards to arrest, using it only as a last resort. This is due in part to changes in commitment laws.

Commitment Laws

Prior to 1967 when the Lanterman-Petris-Short Act (or the California Mental Health Act) was signed by lawmakers in California, commitment laws were fairly vague and varied from state-to-state. Most laws up until this time imposed general criteria of mental illness and need for treatment, and they carried little restriction on how long a person could be involuntarily institutionalized. After the LPS Act of 1967, nearly every state made modifications based on LPS within ten years. There were three changes that had a major effect in how cases involving the mentally ill were handled. First, an involuntary placement in a mental hospital now requires a diagnosis of imminent dangerousness to self and others as well as incapacitation for caring for oneself. Second, while the commitment is usually brief, it is followed by (third) a more rapid due-process in the courts. These changes have resulted in fewer and shorter commitments (Lamb & Weinberger, 2004). The changes also require police to arrest a person even when they are mentally ill if it is thought that they have committed a crime of any sort and they do not meet the above qualifications for commitment.

Need for Specialized Treatment and Jail Diversion

If commitment is not an option, the individual is placed in jail and a psychological evaluation usually takes place. The clinician generally asks self-report questions about overall health and looks for signs and symptoms of mental illness. They construct treatment histories, medication histories and administer personality inventories and other examinations used to evaluate current levels of cognitive and social functioning (Lurigio & Swartz 2006). This evaluation may have once taken place in a halfway house or hospital setting thirty years ago when mental illness was suspected, but due to drastic changes in how services are offered to the mentally ill, they are now subject to arrest and placed in the criminal justice system, some prior to the evaluation. This is especially true in cases where substance abuse is a co-occurring condition because there are very few placements available for these patients (Abram & Teplin, 1991). One study reveals that 68% of prisoners admitted to alcohol and/or drug abuse prior to incarceration (Karberg & James, 2005). With such a high number of inmates with substance abuse problems and the growing need for mental health services, it could be inferred that this need goes hand-in-hand: “Co-occurring disorders (among prisoners) is the norm rather than the exception” (Widiger & Samuel, 2005, p. 495).

Recently in Washington State, jail diversion programs have begun to tackle the problem of co-occurring substance abuse and mental illness, by way of offering treatment and support services. The Washington State Dangerous Mentally Ill Offender Program (DMIO) was established by the 1999 State Legislature and provides state funded substance abuse treatment, mental health services, and housing to help reintegrate inmates with mental illness who may pose a threat to public safety. This program

provides additional treatment for up to five years after release. Analysis from the Washington State Institute for Public Policy released findings from 172 participants from 2004-2008 showing a 42% reduction in new felony recidivism and a 36% reduction in new violent felony recidivism. Using estimates for economic impact, the study shows of the $33,866 spent per participant, they receive $55,463 in benefits, that is a return of $1.64 for every dollar spent (Mayfield, 2008).

Although changes are hopeful, and support is widespread with 300 different diversion programs operating, there is little empirical research showing effectiveness that has been published. More research must be done to further funding and expand the diversion programs.

Risks for the Mentally Ill in Prison

In addition to needing more services while in prison, the mentally are also at a higher risk for victimization while incarcerated. Compared with the general population, a recent study showed men in prison that suffer from any form of mental illness are 33% more likely to be physically victimized and the rates are nearly double for sexual victimization. Inmates with mental illness in this study also reported feeling less safe in prison and had a higher percentage of victimization prior to incarceration (Wolff & Shi, 2009). The authors suggested that by relocating inmates that suffer from mental illness who have been victimized in prison to other areas and providing them with trauma services similar to what they would receive if in the community could ultimately lower cases of further anxiety, depression and PTSD.

Purpose of the Study

The purpose of the current study is to examine co-occurring factors and their relationship to aggression in inmates. Prisons need to maintain a safe and orderly environment while helping inmates make positive social changes (Ax, Fagan, Magaletta, Morgan, Nussbaum, & White, 2007). Providing adequate and purposive mental health services for inmates, specifically those with propensities towards aggression, is essential in helping inmates adapt to the changing environment of prison life, as well as helping them prepare for re-entry into the community. This is important, in part, because "Living in prison represents an extreme challenge to the coping skills of any person, an ordeal that could be aggravated by mental or emotional handicaps" (McCorkle, 1995, p. 54).

By identifying mental health risk factors, including those more likely to co-occur with higher propensity towards aggression, at intake assessment, more proactive treatment could be offered inside the institution. This would suggest a more successful re-entry to civilian life and possibly lower the recidivism rate as well.

Although some research predicting recidivism rates for mentally ill offenders has been found to be almost identical for non-disordered offenders (Bonta et al., 1998), other research has found recidivism rates to be much higher for mentally ill offenders (Roskes, Cooksey, Feldman, Lipford, & Tambree, 2005). Whatever the case may be, there is hope that by tackling more mental health issues in the prison, these alarming rates could be lowered. The Bureau of Justice Statistics reported that in a study covering 15 states, two-thirds of all released prisoners were rearrested within a 3 year period, and of those, nearly half were convicted (2002).

Research Questions

This study examines the following research questions: (1) Are inmates more likely to have a propensity towards aggression when they have a history of psychological treatment, problems with anxiety, or history of head injury? (2) Will one of the variables be more significant than the others in predicting propensity towards aggression? This study hypothesizes the following:

H_1: Inmates with a history of psychological treatment for mental illness will be more likely than inmates without a history of psychological treatment to have a propensity towards aggression.

H_2: Inmates with a history of anxiety will be more likely than inmates without a history of anxiety to have a propensity towards aggression.

H_3: Inmates with a history of head injury will be more likely than inmates without a history of head injury to have a propensity towards aggression.

Definition of Terms

Aggression

Aggression refers to the inmate's self-reported experience related to trouble controlling aggression before and during incarceration.

History of Psychological Treatment for Mental Illness

All participants in the study were undergoing cognitive-behavioral therapy at the time of the data collection. History includes the inmate's self-reported psychiatric treatment received either in an inpatient or outpatient setting prior to incarceration for psychological disorder.

Anxiety

A psychiatric status measure collected through self-reported experience with serious anxiety or tension before or during incarceration as defined on the Addiction Severity Index (Appendix II).

History of Severe Head Injury

Involves severe trauma to the head, in this study the origin and location is unknown.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The Growing Need for Mental Health Services

Unfortunately in modern America, the prison population and those needing services for mental illness are intertwined in a system that is overwhelmed and underfunded. According to Human Rights Watch, there is a pattern forming across America which shows prisoners that require mental health services are being under-treated, and in some facilities, not treated at all. In the facilities where services are offered, a shortage of qualified staff and lack of mental health facilities is common (Human Rights Watch, 2006). Although there has been a modest growth in the number of facilities that are offering mental health screening and services, those prisons that do have services are seeing very large increases in the use of those services. With caseloads becoming so large, there is actually a decrease in services available overall. The growth of the prison facilities and the prisoner population far surpasses the growth of prisoner mental health services (Manderscheid, Gravesande, & Goldstom, 2004).

From 1988 to 2008, the number of people incarcerated in state and federal prisons in the United States increased from 505,712 to over 1.5 million (Bureau of Justice Statistics, 2008). While the prison population was drastically increasing, the mental hospital population was drastically decreasing. In 1998, county and state mental hospitals housed more than 100,000 patients. By 2000, that number had fallen to nearly half, only 56,000

were admitted (Manderscheid et al., 2004). The Bureau of Justice statistics released findings from a study in 2006 that showed more than half of the 25,000 prisoners they interviewed were suffering from mental health problems (James & Glaze, 2006).

A partial explanation to the problem of so many inmates needing mental health services is the deinstitutionalization of mental health facilities that took effect in the 1970's. As part of the John F. Kennedy administration's 'New Frontier', the Community Mental Health Act of 1963 was passed as an attempt to bring a new way to care for the mentally ill that were then being housed in mental hospitals, many of whom spent their entire lives there (Sharfstien, 2000). The CMHA-1963 was meant to give federal dollars to individual communities to spend on mental health centers in hopes of shortening treatment times and improving quality of life for the mentally ill. In reality, it often meant that expensive state mental hospitals were shut down in some instances, discharging long-term residents, to which a group of researchers hypothesized in the early 1980's: "The flood of mental patients shifting to the community for care will lead to a drastic increase in deviance and the criminal justice system will be forced to respond" (Steadman, Monahan, Duffee, Hartstone, & Robbins, 1984, p. 475).

Past research that has focused on mental illness and violence has relayed mixed results. A meta analysis, based on data from the National Institute of Mental Health and Epidemiologic Catchment Area surveys, found a statistically significant correlation between major mental disorder and violent aggressive behavior (Swanson, Borum, Swartz, & Monahan, 1996). Another study that looked at the relationship using a longitudinal data set with more than 34,000 subjects found that violent behavior was not independently predicted by severe mental illness, but did find a correlation between co-

morbid mental health and substance abuse (Elbogen & Johnson, 2009). This concurs with other current research which also found that co-occurring factors which include mental illness and substance abuse leads to violence rates that are substantially higher (Hiday, Swanson, Swartz, Borum & Wagner, 2001; Friedman, 2006). Another study showed that substance abuse was independently correlated with violence among the mentally ill and prevalence rates of assaultive violent acts are substantially higher than in the general population (Swanson et al., 2002). Research also shows that when observed daily, use of drugs and alcohol co-occur with violence on a regular basis showing days of substance use are days of violence and vice-versa among a sample of mentally ill patients (Mulvey, Skeem, Schubert, Odgers, Gardner, & Lidz, 2006). For purposes of this study, history of alcohol abuse and history of drug use are control variables because these factors could affect the dependent variable and introduce bias into the regression coefficients.

Factors Affecting Propensity Towards Aggression in Those Cases Involving Mental Illness

Co-occurring factors often include prior alcohol and drug abuse as mentioned, although there are many other factors that research has unveiled with correlates to aggression and violent behavior. One of the variables addressed in this research is severe brain injury, often referred to as Traumatic Brain Injury (TBI).

It has been shown that the mental health of people with TBI is altered to varying degrees. Compared to the general population, victims of TBI have more neurological abnormalities, and are frequently found in populations of offenders (Cauffman, Steinberg

& Piquero, 2005). In addition, histories of significant head injuries were found in juveniles on death row, convicted for violent personal crimes (Ryan 2005).

According to the Center for Disease Control and Prevention (CDC), each year 1.4 million people in the United States sustain a traumatic brain injury as a result of head trauma. Of those 1.4 million, 50,000 die as a result of their injury; others are hospitalized and/or treated and released. Children with severe TBI account for 15,000 of the cases reported, 50% of which have major neurologic sequelae (DiScala, Osberg, Gans, Chin, & Grant, 1991). Common causes of TBI include: motor vehicle accidents, gunshot wounds, falls, athletic injuries, near drowning incidents and infections of the brain due to tumor, metabolic problems or cerebral hemorrhage (Luiselli, Arons, Marchese, Potoczny-Gray, & Rossi, 2000).

Traumatic Brain Injury has numerous sequelae that include motor dysfunction, sensory processing difficulties, memory deficits, communication deficiencies, impaired executive function as well as problems with impulse control, aggression, stereotypy, and affect dysregulation (Rutter, 1977). There are also many psychological sequelae of TBI associated as predictors for psychiatric problems such as depression, psychotic disorder, alcohol abuse, post-traumatic stress disorder, anxiety disorder, somatization disorder, and eating disorders (Vasterling, Constans, & Hanna-Pladdy, 2000; Rutter, 1977).

Along with physical aggression, altered sexual functioning, impulsivity, social disinhibition, and altered emotional control, these consequences are tragic to individuals and families and place additional burdens on social service agencies, law enforcement, and the courts (NIH Consensus, 1999). Correctional facilities also feel the burden of the

effects of TBI as its victims often exude impulsivity and predatory behavior, both are common traits seen in inmate populations (Ax et al., 2007).

The preceding research has shown the sequelae of TBI and concluded that many of the resulting symptoms are related to the mental health of the victim. In the year following TBI, almost half of the victims show a prevalence of psychiatric illness (Fann et al., 2004). Brain injuries are commonly related to severe personality changes and emotional problems which in turn can be paired with confusion of morals and disruptive behavior (Martens, 2002). These findings concur with the study done by Luiselli, Arons, Marchese, Potoczny-Gray, and Rossi (2000) which state,

> "The effects of severe brain injury typically include an impairment of impulse control, diminished problem solving abilities, and deficits that affect judgment causing children and adolescents with TBI to be at a greater risk for the commission of law-violating behaviors" (Luiselli, et al. 2000, p. 648).

Specifically, criminality is frequently associated with Psychopathic Personality Disorder and Antisocial Personality Disorder (Martens, 2000), both of which are possible sequelae to TBI.

Another complication is that alcohol abuse and/or dependency and mood disturbance are major co-occurring conditions among patients who have sustained TBI. It is suggested that if prior to the injury the victim had any abuse of drugs or alcohol they were less likely to be independent and productive in their personal lives (Jorge et al., 2005). These sequelae correlate to increased suicide as well. In patients who made contingent suicide threats, the majority were likely to be addicts of drugs or alcohol, antisocial, living on the streets, single, and in trouble with the law (Martens, 2000). The

NIH agrees, stating that social consequences of TBI include suicide, substance abuse, and chronic unemployment (1999).

Benefits for Including Anxiety in the Current Study

Although the associations with aggressive behavior and the co-occurring conditions of mental illness, substance abuse, and severe head injury have been strongly documented, less research has included the factor of anxiety. Research has only touched on anxiety as related to other issues with inmates, generally referring to anxiety and other mood disorders as one category. This study will examine anxiety as an individual factor, not grouped with other mood disorders.

Previous research that examined psychological autopsies completed after inmate suicides in New York revealed that 70% of suicide victims reported experiencing anxiety and 95% had a history of substance abuse. Of these cases, 84% had been on active mental health caseload and 41% of those had received some mental health service within 1-3 days of the suicide (Way, Miraglia, Sawyer, Beer, & Eddy, 2005).

Research involving inmate coping strategies and general well being found that more psychological complaints were found in prisoners who also reported problems specifically with anxiety (Van Harreveld, Van Der Plight, Claassen, & Van Dijk, 2007). Anxiety was an unexpected significant finding in a study researching prediction of violence in substance abusing inmates, showing that those inmates that had committed violent crimes were more anxious than those who had not committed violent crimes (O'Grady, Kinlock, & Hanlon, 2007).

Research has identified a strong association between anxiety disorders and substance abuse in the general population as well (Chambless, Cherney, Caputo, & Rheinstein, 1987; Helzer & Pryzbeck, 1998). One study showed a 45% prevalence rate for anxiety disorders among drug users and a 40% prevalence rate for anxiety among those with alcohol problems (Merikangas, Mehta, Molnar, Walters, Swendsen, Aguilar-Gaziola, Bijl, Borges, Carevo-Anduaga, Dewit, Kolody, Vega, Wittchen, & Kessler, 1998). This strong association between anxiety and the previously mentioned co-occurring factors is hard to overlook and therefore will be included in this study.

Control Variables

In addition to the other variables mentioned, control variables of age, education, and race were used in the analysis. Regression analysis is common in neuropsychological evaluation, and using demographic information can help eliminate subjectivity when predicting factors related to cognitive function (Vanderploeg, 2000).

Neuropsychological tests were developed specifically to identify differences between brain injured and non-brain injured patients. However, identifiable differences on neurological tests may be due in part to the influence of demographic factors. Factors such as age and education may influence the way participants with brain injury perform on neurological tests compared to participants with no brain injury (Reitan & Wolfson, 1995). For example, Mushkudiani, Engel, Streyerberg, Butcher, Lu, Marmarou, Slieker, McHugh, Murray, and Maas (2007) found that increasing age was a significant predictor of poor prognosis while higher education was related to a better outcome for patients.

Previous research has also examined race differences in patients with brain injuries. Johnstone, Mount, Gaines, Goldfader, Bounds, and Pitts (2003) examined vocational rehabilitation in patients with brain injury due to non-whites having more long term difficulties in functional outcomes and often face more socio-economic barriers. Johnstone et al. (2003) hypothesized that there would be more whites than non-whites with successful vocational rehabilitation, based on previous research by Rosenthal (1996) which reported minorities with brain injuries had nearly double the rates of unemployment following their injury than whites. The results of the study actually showed a very minor difference in employment if the participant received the state vocational rehabilitation services. In contrast to this finding, Mushkadiani et al. (2007) found that race (along with age and education as noted above) was related to outcome following traumatic brain injury reporting that whites had predominately better outcomes than non-whites.

In addition, Bazarian, Pope, McClung, Cheng, and Flesher (2003) report that non-whites were more likely to have longer wait-times in the emergency room following brain injury, and were more likely to see a resident than a physician. This is troublesome due to the fact that the treatment a person receives immediately following a brain injury can greatly affect their prognosis. There is little that can be done to reverse the initial brain damage after an injury, stabilizing the patient and ensuring oxygen supply to the brain is imperative for the best possible outcome (NIH 2009).

As a result of the previous research, the variables of age, education, and race are included as control variables in the current study.

CHAPTER 3

METHODOLOGY

Data

Data used in this study was obtained under a restricted data use agreement with the Inter-University Consortium for Political and Social Research, Institute for Social Research, University of Michigan (ICPSR). A detailed agreement is on file with the Director of the National Archive of Criminal Justice Data and has granted access to this data set for this specific research. The principle investigator also received the Collaborative Institutional Training Initiative (CITI) certification for research involving human subjects and approval from University of Nevada, Las Vegas Social/Behavioral Institutional Review Board (protocol #0810-2881).

The original research uses a quasi-experimental design due to the fact that random assignment could not be obtained. Purposive sampling was conducted to select and interview 225 male inmate volunteers participating in a cognitive–behavioral therapy program offered in the Maryland correctional system. Three facilities were used to draw a pseudo-random sample during intake into the program. For the purpose of the original study, inmates that were illiterate (due to the fact that some neuropsychological testing included reading tasks), demonstrated low IQ (<70), and those with mental retardation, dementia, amnesia, or delirium were excluded. These conditions would interfere with ability to understand the implications of consent and performance on neuropsychological

testing. Participants over the age of 49 were also excluded, due to the cognitive decline that occurs naturally over time.

In order to maintain confidentiality of personal information, all identifying markers were removed from the data. Only a numerical sequence code was used.

Sample

The original data set included 336 variables that included demographic information, results from highly specialized neuropsychological exams, saliva cortisol responses, virtual reality vignettes and official state institutional records. For purposes of this study, the sample consisted of the following three independent variables; history of psychological treatment, severe head injury, and anxiety. Treatment for alcohol abuse, history of drug use, age, race, and education are included as control variables. All participants in the study were male; no females were included in the original data.

Conceptualization of Terms

Dependent Variable

The dependent variable in the current study was aggression. *Aggression* refers to the inmate's self-reported experience having trouble controlling aggression before and during incarceration. It was measured by their score on the Reactive-Proactive Questionnaire (Raine, Dodge, Loeber, Gatzke-Kopp, Lynam, Reynolds, Stouthamer-Loeber, & Liu, 2006) (Appendix I). This measure provided both a predatory aggressive as well as an impulsive aggressive assessment, referred to as proactive aggression and reactive aggression, respectively (see table 2).

Any score higher than 1 for the proactive or reactive items indicates aggressive behavior. Higher scores on the proactive or reactive items (see appendix A) indicates the participant has trouble controlling aggression as well as a more frequent occurrence of aggression. *Aggression* was a continuous variable ranging from 0 to 24. For the overall sample, (see table 1) reactive aggression scores ($\bar{x}$ = 11.2, *SD* = 4.6) were almost twice as high as the scores for proactive aggression ($\bar{x}$ = 6.3, *SD* = 4.8). For reactive aggression, 99.6% of the sample reported at least one occurrence, and for proactive aggression, 82.1% of the sample reported at least one occurrence. The mode for proactive aggression in inmates without history of psychological treatment for mental illness was 0, while the mode for reactive aggression in inmates without history of mental illness was 7. For inmates with a history of psychological treatment for mental illness, the modes for proactive and reactive aggression were 5 and 11, respectively. The score does not measure the actual number of occurrences, but rather points were given according to how often the aggression took place; 0 for never, 1 for sometimes, and 2 for often.

Independent Variables

The independent variables in the current study were history of psychological treatment, anxiety, and severe head injury (see table 2). All variables were determined through answers on the Addiction Severity Index-revised (McLellan, Kushner, Metzger, Peters, Smith, Grissom, Pettinati, & Argeriou, 1992), (Appendix II). *History of psychological treatment for mental illness* (#1, #2, page 48) was coded as 0 (never an inpatient or outpatient for psychological disorder) or 1 (previous treatment as an inpatient or outpatient for a psychological disorder). For purposes of this study, prior psychological disorder was also referred to as history of mental illness. Having spent any

amount of time in either an inpatient or outpatient setting receiving psychological treatment for mental illness represented 23.6% of the sample (n = 53). The majority of the sample, 76.4%, did not have a history of psychological treatment for mental illness.

Of the participants that had a history of psychological treatment for mental illness (n=53), only 3.7% (n=2) reported no co-occurring factors. The remaining 96.3% did report co-occurring factors as shown below in table 1.

Table 1

Frequencies of Co-Occurring Factors Among Inmates with History of Mental Illness

Factor	n	%
History of Head Injury	29	54.7%
Treatment for Alcohol Abuse	27	50.9%
History of Drug Use	44	83.0%
History of Anxiety	33	62.3%

Anxiety (Appendix II, #4, page 47) was used as a psychiatric status measure, and was coded as 0 (no problems with anxiety) or 1 (experienced problem with anxiety). Inmates in the current study that reported problems with anxiety represent 37.7% of the sample.

History of Severe head injury (Appendix II, #6, page 48) was coded as 0 (no severe head injury) or 1 (yes, suffered severe head injury). Participants that reported history of suffering a serious trauma to the head represented 31.4% of the sample (n = 70) .This is an over-representation compared to the general public (2%).

Control Variables

The control variables in the current study were prior drug use, prior alcohol abuse, age, race and education (see table 2). *Prior drug use* was a dichotomous variable coded as yes/no based on the participant's self-reported use of illegal drugs. Participants that had a history of drug use were a large majority at 86.9%.

Prior alcohol abuse was a dichotomous variable coded as yes/no based on the participant's self-reported treatment for alcohol abuse. A majority of the sample had no history of alcohol abuse, only 27.8% reported previous treatment for alcoholism.

Age was a dichotomous variable coded as less than 35 = 0, or over 35 = 1. The age of participants in this study refers to the age at the time they entered the therapy program from which the data was drawn from. The age range was between 21 and 49 with the average age of 31. The mode age of the sample was 26 (7.8%), with an overall even representation of ages throughout the sample. Participants aged 21-27 represented 32.3% of the sample. Participants aged 28-34 represented 34.5%, and those aged 35-44 represented 28.9% of the sample. The only age range with a particular low number of participants was that of age 45-49 with .9% of the sample.

Race was captured through a set of dichotomous variables: Non-White = 0 and White = 1. If a participant reported their race as Black, American Indian, Alaskan Native, Asian, Pacific Islander, or Hispanic they were included in the Non-White category for purpose of analyses. In this sample, 17.9% were white, and 82.1% were non-white.

Education was coded as Non-High school graduate = 0, High school graduate = 1. Education refers to the participant's level of schooling. In this study, 34.7% of the participants did not graduate high school. Their level of education ranged from 4 years to

11 years of schooling. The participant's that completed 12 or more years represented 65.3% of the sample.

Given the level at which the independent and dependent variables are measured, the following study was analyzed using ordinary least squares (OLS) regression analysis. The OLS model, which is a type of multiple regression analysis, "is used for studying relationships between a single dependent variable and one or more independent variables" (Allison, 1999, p.1).

Table 2

Descriptive Statistics

Variables	Mean	SD	%	Min	Max
Dependent variables					
Proactive aggression (overall sample)	6.30	4.77		0	24
Reactive aggression (overall sample)	11.17	4.60		0	24
Proactive aggression (no history of mental illness)	5.99	4.74		0	24
Reactive aggression (no history of mental illness)	10.82	4.55		0	24
Proactive aggression (with history of mental illness)	7.28	4.71		0	24
Reactive aggression (with history of mental illness)	12.25	4.54		0	24
Independent variables					
History of psychological treatment	.23	.42		0	1
Yes			23.3		
No			76.7		
History of anxiety	.38	.48		0	1
Yes			37.7		
No			62.3		
History of severe head injury	.31	.46		0	1
Yes			31.4		
No			68.6		

Table 2

Descriptive Statistics (continued)

Variables	Mean	SD	%	Min	Max
Control variables					
History of drug use	.87	.33		0	1
Yes			86.9		
No			13.1		
History of alcohol abuse	.28	.45		0	1
Yes			27.8		
No			72.2		
Age				0	1
Under 35			69.4	18	34
Over 35			30.6	35	49
Race				0	1
Non-white			82.1		
White			17.9		
Education				0	1
Non-HS grad			34.7		
HS grad			65.3		

CHAPTER 4

FINDINGS OF THE STUDY

The first analysis is presented in a correlation matrix in Table 3 below. There are many factors that are significantly correlated between variables. Among the strongest correlations are the positive relationships between reactive aggression and proactive aggression (r = .681, p = .000); treatment for alcohol abuse and history of psychological treatment (r = .297, p = .000); history of head injury and history of psychological treatment (r = .267, p = .000); history of anxiety and history of psychological treatment (r = .272, p =.000); history of anxiety and race (r = .240, p = .000); history of psychological treatment and race (r = .267, p = .000); and reactive aggression and history of anxiety (r = .196, p = .003). These relationships between variables support the findings of past research as mentioned in the literature review, showing the significant co-occurring tendencies through correlation of these factors.

Other significant correlations included the positive relationship between reactive aggression and history of head injury (r = .142, p = .034); reactive aggression and history of psychological treatment (r = .135, p = .044). These findings reflect that inmates with a history of head injury or a history of psychological treatment are more likely to show aggression when they are forced to react to a situation than they are to initiate an aggressive situation.

Table 3

Correlation Matrix

	Pro.Ag.	Reac.Ag.	Psych.	Anx.	Hd Inj.	Drug	Alc.	Age	Race	Ed
Proactive Aggression	1	.681**	.012	.117	.125	.044	-.021	-.021	-.020	-.082
Sig. (2-tailed)		.000	.096	.080	.062	.518	.757	.758	.765	.223
Reactive Aggression		1	.135*	.196**	.142*	-.028	.023	-.021	.049	-.101
Sig. (2-tailed)			.044	.003	.034	.674	.729	.752	.464	.131
History of Psych. TX			1	.272**	.267**	-.038	.297**	-.014	.267**	-.066
Sig. (2-tailed)				.000	.000	.572	.000	.831	.000	.326
History of Anxiety				1	.072	.054	.075	-.136*	.240**	-.036
Sig. (2-tailed)					.281	.420	.263	.044	.000	.590
History of Head Injury					1	.087	.098	.096	.036	-.001
Sig. (2-tailed)						.196	.145	.155	.589	.984
History of Drug Use						1	.000	-.064	-.008	.068
Sig. (2-tailed)							.989	.341	.908	.315
TX for Alcohol Abuse							1	.087	-.258**	-.032
Sig. (2-tailed)								.195	.000	.642
Age								1	.044	.001
Sig. (2-tailed)									.510	.990
Race									1	.022
Sig. (2-tailed)										.750
Education										1
Sig. (2-tailed)										

*= p< .05 ** = p<.01

Regression Analysis

The following analyses were conducted using OLS regression to isolate the effects of proactive and reactive aggression. The series of models that were analyzed include; regression model #1, containing all variables, conducted for proactive aggression and model #2, containing all variables, conducted for reactive aggression. Regression coefficients are presented in table 4. In addition, separate regression models were conducted for each of the three independent variables to further isolate predictors of aggression.[1]

The first regression model was analyzed to include all eight variables to test the overall significance of proactive aggression. The regression model for proactive aggression did not yield any of the eight factors as significant predictors overall ($F = 1.258$, $p = .13$).

The second regression model was also analyzed to include all eight variables and test the significance of reactive aggression. History of anxiety and history of severe head injury explained a significant proportion of variance in reactive aggression scores, $R^2 = .07$, F (8, 219) = 1.989, $p = .02$. Participants with history of reactive aggression were significantly more likely to have a History of Severe head injury, b = .135, $t(211) = 1.919$, $p = .02$. Anxiety also significantly predicted reactive aggression scores, b = .170, $t(211) = 2.390$, $p = .00$. The regression coefficient was not significant for any other variable. This regression model showed overall significance ($p = .02$).

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[1] Regression models for proactive and reactive aggression were also analyzed controlling for length of time incarcerated to identify any correlation with aggression with no significant findings.

Table 4

Regression Coefficients for all Models

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig.(2 tailed)
Model 1					
Proactive Aggression	5.784	1.068		5.416	.000
Psych TX	.936	.878	.083	1.065	.144
Anxiety	.917	.708	.093	1.294	.098
Head Injury	1.090	.735	.105	1.482	.070
Drug Use	.548	.979	.038	.560	.288
Alcohol TX	-.455	.772	-.043	-.589	.278
Age	.007	.715	.001	.010	.496
Race	-.741	.900	-.060	-.823	.205
Education	-.866	.682	-.086	-1.270	.103
Model 2					
Reactive Aggression	11.313	1.018		11.117	.000
Psych TX	.473	.837	.043	.565	.286
Anxiety	1.614	.675	.170	2.390	.009**
Head Injury	1.345	.701	.135	1.919	.028*
Drug Use	-.713	.933	-.052	-.764	.222
Alcohol TX	-.133	.736	-.013	-.180	.428
Age	-.008	.681	.000	-.012	.495
Race	-.066	.858	-.006	-.077	.469
Education	-.895	.650	-.092	-1.378	.085
Model 3					
Proactive Aggression	6.012	.363		16.547	.000
Psych TX	1.258	.752	.112	1.671	.048*
Reactive Aggression	10.825	.349		30.974	.000
Psych TX	1.464	.724	.135	2.023	.022*

*= p< .05 ** = p<.01

Table 4

Regression Coefficients for all Models (continued)

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig.(2 tailed)
Model 4					
Proactive Aggression	5.871	.403		14.578	.000
Anxiety	1.153	.656	.117	1.758	.040*
Reactive Aggression	10.468	.384		27.286	.000
Anxiety	1.854	.625	.196	2.966	.001**
Model 5					
Proactive Aggression	5.902	.383		15.391	.000
Head Injury	1.284	.684	.125	1.876	.031*
Reactive Aggression	10.725	.369		29.059	.000
Head Injury	1.403	.659	.142	2.130	.017**
Model 6					
Proactive Aggression	5.472	.451		12.126	.000
Psych TX	.662	.805	.059	.822	.206
Anxiety	.923	.679	.094	1.360	.087
Head Injury	1.053	.708	.103	1.487	.069
Reactive Aggression	10.053	.429		23.421	.000
Psych TX	.627	.766	.058	.819	.207
Anxiety	1.627	.646	.172	2.519	.006**
Head Injury	1.128	.673	.114	1.674	.047*

*= p< .05 ** = p<.01

To further isolate the predictors for propensity towards violence, separate models of regression were analyzed for each of the three independent variables (see table 4 above).

Although history of psychological treatment did not produce any significant findings in the overall model in relation to aggression, and the model did not support the original hypothesis that predicted a relationship between history of mental illness and aggression, it was a significant predictor when an individual regression model was analyzed predicting aggression (model #3). History of psychological treatment explained a 1% variance in reactive aggression scores, $R^2 = .01$, $F(1, 222) = 4.092$, $p = .02$; and a 1% variance in proactive aggression scores, $R^2 = .01$, $F(1,222) = 2.794$, $p = .04$. Participants with a History of psychological treatment were significantly more likely to have a history of proactive aggression, b = .112, $t(221) = 1.671$, $p = .04$; and reactive aggression, b = .135, $t(221) = 2.023$, $p = .02$.

The next variable analyzed in an independent regression model was anxiety (model #4). History of anxiety explained 3% of the variance for reactive aggression scores, $R^2 = .038$, $F(1,222) = 8.796$, $p = .00$ and 1% of the variance for proactive aggression scores, $R^2 = .01$, $F(1,222) = 3.090$, $p = .04$. Participants with a history of reactive aggression were significantly more likely to have a history of anxiety, b = .196, $t(221) = 2.996$, $p = .00$. Participants with a history of proactive aggression were also significantly more likely to have a history of anxiety, b = .117, $t(221) = 1.758$, $p = .04$.

History of severe head injury (model #5) was a significant predictor of reactive aggression scores, b = .142, $t(221) = 2.130$, $p = .01$; and proactive aggression scores, b = .125, $t(221) = 1.876$, $p = .03$. History of severe head injury explained 2% of the variance

in reactive aggression scores, R^2 = .02, $F(1, 222) = 4.536$, $p = .01$; and 1% of the variance for proactive aggression scores, $R^2 = .01$, $F(1,222) = 3.518$, $p = .03$.

Further regression analysis

To further explore the prediction validity of the aforementioned three independent variables, one last model of regression was analyzed that included all three variables and the two types of aggression (model #6). For reactive aggression: history of psychological treatment, history of anxiety, and history of severe head injury explained 6% of the variance in reactive aggression scores, $R^2 = .06$, $F(3,222) = 4.457$, $p = .00$. History of severe head injury significantly predicted reactive aggression scores, b = .114, $t(219) = 1.674$, $p = .04$; as well as history of anxiety, b = .172, $t(219) = 2.519$, $p = .00$. History of psychological treatment was not a significant predictor in this model. Overall, the model for reactive aggression was significant ($p = .00$).

The model for proactive aggression, that included only the three independent variables, was also significant ($p = .04$). History of anxiety, history of severe head injury, and history of psychological treatment explained 3% of the variance in proactive aggression scores, $R^2 = .03$, $F(3,222) = 2.293$, $p = .04$. Participants with a history of proactive aggression were significantly more likely to have a history of severe head injury, b = .103, $t(219) = 1.487$, $p = .07$. Participants with a history of proactive aggression were also significantly more likely to have a history of anxiety, b = .094, $t(219) = 1.360$, $p = .08$. History of psychological treatment, once again, was not a significant predictor of proactive aggression.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Discussion

The results of this study of 225 male inmates from the Maryland correctional system are in agreement and extend specific findings of previous research involving head injury and anxiety. This study supports the hypothesis that inmates are more likely to have propensity towards aggression when they have a history of anxiety. Inmates are also more likely to have a propensity towards aggression when they have a history of severe head injury. This study does not support evidence in favor of the hypothesis for the other independent factor, psychological treatment for mental illness.

History of Psychological Treatment for Mental Illness

A majority of the inmates that reported history of psychological treatment for mental illness (n=53), also reported history of head injury, 54.7%; had treatment for alcohol abuse, 50.9%, and had a history of anxiety, 62.3%. This variable showed significant correlation with the other factors although was not significant in the regression analyses. This study did support previous findings showing significant relationships with co-occurring factors (O'Grady, Kinlock, & Hanlon, 2007, Way, Miraglia, Sawyer, Beer, & Eddy, 2005). Although this variable may not have predicted a significant regression model when analyzed with all variables, it remains very relevant to the over-all data analysis.

Anxiety

This study is also in agreement with previous findings that result in anxiety as a factor related to aggression. Research suggests that inmates with anxiety problems are more likely to lash out when presented with stressful situations as a possible antidote to reduce their stress levels (O'Grady, Kinlock, & Hanlon, 2007). Inmates with a history of mental illness in this study were more than twice as likely (62.3%) to suffer from anxiety that those without a history of mental illness (30.2%). This is in agreement with other findings that report high prevalence of anxiety among inmates with psychological problems (Van Harreveld et al, 2007). In contrast to other previous research, this study did not have significant findings correlating substance abuse with anxiety (Merikangas et al, 1998).

History of Severe Head Injury

The findings on this variable concur with previous research that included aggression as a sequalae to head trauma (Cauffman, Steinberg & Piquero, 2005; Rutter, 1977; Ax et al, 2007). Also in agreement as mentioned in the literature review, is the relationship between aggression in those with mental illness and co-occurring factors such as head injury (Vasterling, Constans, & Hanna-Pladdy, 2000; Fann, Burington, Leonetti, Jaffe, Katon, & Thompson, 2004). Inmates with a history of psychological treatment for mental illness had a higher score for both proactive ($\bar{x}$ =7.28) and reactive ($\bar{x}$ =12.25) aggression when compared to the inmates without history of mental illness; proactive: $\bar{x}$ =5.99, reactive: $\bar{x}$ = 10.82. These scores suggest that inmates with a history of mental illness and co-occurring factors such as head injury will have a higher propensity towards aggression.

One possible reason why history of head trauma was a significant regression coefficient for reactive and not proactive aggression could be that head injuries most commonly occur in the frontal lobe, where the control center for executive cognitive functioning is located. Diminished ECF capacity is linked with impulse control and communication deficiencies (Rutter, 1977) both of which could impact a person's ability to think clearly when provoked in an aggressive situation, without necessarily having had provoked it.

History of Drug and Alcohol Abuse

This study did not produce any evidence of significance directly between propensity towards aggression and drug use or alcohol abuse. However, history of treatment for alcohol abuse was significantly correlated to history of psychological treatment (p=.000) Speculation from these results may present a likelihood of these factors being related to aggression as in previous studies (Martens 2000, 2002).

Limitations

There were several limitations in this study. The sample size was comparatively small in relation to many prison studies, including the portion of the sample that reported history of mental illness. A random sample in a larger population, as opposed to a pseudo- random sample, would have been ideal.

The measure for head injury was not substantiated to the fullest possible reliability due to the fact that the severity of the injury, nor the location, could not be established in this study due to restricted medical files associated with the data set; the original author classifies the injury only as severe. Since the location in the brain that was affected can

have much different outcomes for treatment and rehabilitation, this additional information is critical for accurate clinical treatment response.

Another limit placed on this study is the cross sectional data collection; causal order can not be established nor can causality be inferred. Many of the variables in this study have the possibility of changing over time if adequate services are offered during incarceration or as the participant ages, spends more time in prison, or re-enters the community.

Also, the variables from the data used for this study were self report, which may limit the study in some ways due to factors such as selective memory, forgetfulness, and the current life situation that may affect honesty and compliance. On the other hand, with sensitive issues such as the variables included in this study, some participants may be more honest when responding to items that they have not discussed prior, or been caught for, such as violence measures on the questionnaire.

Suggestions for Future Research

Future research would benefit from a larger sample size including a population with active mental illness. This would allow for more current analysis on how the inmate is controlling violent behavior with and with out co-occurring factors during incarceration. Measures involving historical events should be more descriptive in relation to time of occurrence, whether prior to incarceration, or during incarceration. This would allow for better determination of how the inmate is adapting to prison life as well as develop causality. Mental health screenings at intake and upon release could also be compared to

see if treatment was effective in regards to the inmate's ability to control violent behavior during incarceration.

Conclusions

There are many issues being faced everyday in America's prison population. There is overcrowding, lack of services, and lack of funding to name a few. Intertwined in the middle of it all is the prisoners themselves. One may ask why there needs to be an emphasis on them – why not give that extra attention and funding to help the victim of their crime. If we know more about why the crime was committed, if we know the likelihood that the offender can be rehabilitated, and what methods could help reach those at highest risk for continued aggressive behavior, there will not be as many victims.

A stronger framework with more emphasis on co-occurring factors is needed to assess the mental health needs of prisoners. Too many lives are being tossed on the prison conveyor belt without regard to proper and specialized mental health treatment. There are overwhelming numbers of inmates that can benefit from more mental health services, and it is in the best interest of the American public to see that they receive them. A person that is released from prison with the same risk factors for aggressive behavior that they had when they went into the system will no doubt be back. Cycling through the revolving door is the sad destiny of a recidivist with mental health issues and other co-occurring factors in this country. More research is needed to streamline treatment programs to address co-occurring factors and risk assessment for aggressive behavior in the prison population of America.

APPENDIX I

REACTIVE-PROACTIVE QUESTIONNAIRE

REACTIVE-PROACTIVE QUESTIONNAIRE

Scores (0, 1, or 2) for proactive items (2, 4, 6, 9, 10, 12, 15, 17, 18, 20, 21, 23) and reactive items (1, 3, 5, 7, 8, 11, 13, 14, 16, 19, 22) are summated to form the scales. Proactive and reactive scales scores are summated to obtain Total scores.

Instructions. There are times when most of us feel angry, or have done things we should not have done. Rate each of the items below by putting a circle around either 0 (never), 1 (sometimes), or 2 (often). Don't spend a lot of time thinking about the items; just give your first response. Make sure you answer all the items.

	0 = NEVER 1 =SOMETIMES 2 = OFTEN		
How often have you…			
1. Yelled at others when they have annoyed you	0	1	2
2. Had fights with others to show who was on top	0	1	2
3. Reacted angrily when provoked by others	0	1	2
4. Taken things from other people	0	1	2
5. Gotten angry when frustrated	0	1	2
6. Vandalized something for fun	0	1	2
7. Had temper tantrums	0	1	2
8. Damaged things because you felt mad	0	1	2
9. Had a gang fight to be cool	0	1	2
10. Hurt others to win a game	0	1	2
11. Become angry or mad when you don't get your way	0	1	2
12. Used physical force to get others to do what you want	0	1	2
13. Gotten angry or mad when you lost a game	0	1	2
14. Gotten angry when others threatened you	0	1	2
15. Used force to obtain money or things from others	0	1	2
16. Felt better after hitting or yelling at someone	0	1	2
17. Threatened or bullied someone	0	1	2
18. Made obscene phone calls for fun	0	1	2
19. Hit others to defend yourself	0	1	2
20. Gotten others to gang up on someone else	0	1	2
21. Carried a weapon to use in a fight	0	1	2
22. Gotten angry or made or hit others when teased	0	1	2
23. Yelled at others so they would do things for you	0	1	2

APPENDIX II

ADDICTION SEVERITY INDEX – REVISED (FISHBEIN)

ADDICTION SEVERITY INDEX – REVISED (FISHBEIN)

INSTRUCTIONS:

0 = no X = question not answered
1 = yes N = question not applicable

SUMMARY OF PATIENTS RATING SCALE

0 = not at all 3 = considerably
1 = slightly 4 = extremely
2 = moderately

ID NUMBER: _____ DATE: _____ TIME: _____

GENDER:

1 = Male
2 = Female

DATE OF BIRTH: _____

GEOGRAPHIC AREA: _____

RACE:

1 = White
2 = Black
3 = American Indian
4 = Alaskan Native
5 = Asian or Pacific Islander
6 = Hispanic – Mexican
7 = Hispanic – Puerto Rican
8 = Hispanic – Cuban
9 = Other Hispanic

RELIGIOUS PREFERENCE:

1 = Christian/Protestant
2 = Catholic
3 = Jewish
4 = Islamic
5 = Other (specify: _____)
6 = None

Marital status

1 = married 2 = remarried 3 = widowed 4 = separated 5 = divorced = never married

What is your weight ___ your height __ and which hand is dominant (circle): right or left

How many months have you been in prison? _____

MEDICAL STATUS

1. How many times in your life have you been hospitalized for medical problems? _____ (include o.d.'s, d.t.'s, exclude detox)

2. How long ago was your last hospitalization for a physical problem? (years)____ (months) ___

3. Do you have any chronic medical problems that continue to interfere with your life? __
   0 = no
   1 = yes (specify: _____)

4. Are you taking any prescribed medication on a regular basis for a physical problem? _
   0 = no
   1 = yes (specify: _____)

5. How many days have you experienced medical problems in the past 30? _____

6. Have you ever experienced a severe head injury? _____
   0 = no
   1 = yes (specify age[s]: _____) [Location of **s**kull**: _____]**
   6.a. If yes to #6, did you black out? _____
   6.b. If yes to #6.a., for how long were you out? Days: ___ Hours:___Minutes: _____

EMPLOYMENT/SUPPORT STATUS

1. Education completed (GED = 12 yrs) _____ years

2. Training or technical education completed _____
   0 = no
   1= yes

3. Do you have a profession, trade, or skill? _____ (specify :_____)

4. In years or months, how long was your longest full time job? ____(months)

5. Usual (or last) occupation? Specify in detail: _____

6. Did someone contribute to your support in anyway? _____
   0 = no
   1 = yes

7. Usual employment pattern, past 3 years:
   1 = full time (40hrs/wk)
   2 = part time (reg hrs)
   3 = part time (irreg., daywork)
   4 = student
   5 = service
   6 = retired/disability
   7 = unemployed
   8 = in controlled environment

8. How many people depended on you for the majority of their food, shelter, etc.?
_____
(see ASI manual for Hollingshead rating)

DRUG/ALCOHOL USE

For lifetime, specify in years, and include age of onset:

	Lifetime (mo)
01 alcohol – any use Onset: _____	_____
02 alcohol – to the point of intoxication	_____
03 heroin Onset: _____	_____
04 methadone Onset: _____	_____
05 other opiates/pain killers Onset: _____	_____
06 barbiturates/downers Onset: _____	_____
07 other depressants Onset: _____	_____
08 cocaine/crack Onset: _____	_____
09 amphetamines/speed Onset: _____	_____
10 marijuana Onset: _____	_____
11 hallucinogens, PCP, acid Onset: _____	_____
12 inhalants, sniffing Onset: _____	_____
13 more than one substance per day (include alcohol)	_____

14. Which substance is the major problem (or drug of choice)?
(0=no problem; 15 = alcohol and drug; 16 = polydrug)_____

15. How long was your last period of voluntary abstinence from this drug of choice?
(0 = never abstinent) _____months

16. How many times have you:
Had DTs _____
Overdosed _____

17. How many times in your life have you been treated for:
Alcohol abuse _____
Drug abuse _____

FAMILY HISTORY (Biological family only)

Have any of your relatives had what you would call a significant drinking, drug use or psychiatric problem – one that did or should have led to treatment? (Specify full and half siblings.)

	Alcohol use	drug use	psychiatric
Immediate: (mother, father, brother, sister)	_____	_____	_____
Extended: (grandparent, uncle, aunt, cousin)	_____	_____	_____

Directions: Place "0" in category where the answer is no for all relatives in that category; Place "1" where the answer is yes for any relatives in that category; Place "X" where answer is uncertain or "I don't know"; Place "N" where there never was a relative in that category. Put number of relatives in category if more than one (e.g., 2 aunts…).

PSYCHIATRIC STATUS

How many times have you been treated for any psychological or emotional problems?

1. In a hospital _____

2. As an outpatient or private patient _____

Have you had a significant period (that was not related to drug/alcohol use) in which you have:

0 = no; 1 =yes

3. experienced serious depression _____

4. experienced serious anxiety or tension _____

5. experienced hallucinations _____

6. experienced trouble understanding, concentrating or remembering _____

7. experienced trouble controlling violent behavior _____

8. experienced serious thoughts of suicide _____

9. attempted suicide _____

10. Been prescribed medication for any psychological/emotional problem _____

11. How many days in the past 30 have you experienced these psychological/emotional problems? _____

INTERVIEWER IMPRESSIONS

At the time of the interview, is the subject: 0 = no; 1 = yes
Is any of the above information significantly distorted by:

14. Obviously depressed/withdrawn _____

15. Obviously hostile _____

16. Obviously anxious/nervous _____

17. Having trouble with reality testing, thought disorders, paranoid thinking _____

18. Having trouble comprehending, concentrating, remembering _____

19. Having suicidal thoughts _____

20. Patient's misrepresentation? 0 = no; 1 = yes _____

21. Patient's inability to understand? 0 = no; 1 = yes _____

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