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Research Brief

PRIMARY CARE Research Institute

Mental Health and Criminal Activity

The Prevalence and Characteristics of Mental Health Disorders among a Population of Probationers

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Mental Health and Criminal Activity

The Prevalence and Characteristics of Mental Health Disorders among a Population of Probationers

INTRODUCTION

Mental health disorders are a growing public health concern in the United States. More than one in every four adults suffers from a mental health disorder every year,¹ and in 2004, approximately 57.7 million people were living with various mental illnesses.² Additionally, mental health disorders are amongst the leading cause of disability in the United States, and by the year 2020 mental disorders will be the leading cause of disability for women and children.³ Depression alone is estimated to have a societal cost of \$83 billion, of which 62% is attributable to excess absenteeism and “presenteeism” (i.e. lower than average work performance while on the job).⁴

Research has shown that many mental health disorders are especially prevalent among prison, detainee, probation, and delinquent populations. In a 2002 systematic review of the literature, it was estimated that about 4% of male prisoners/detainees worldwide had a psychotic illness, 10% had major depression, and 65% had a personality disorder. Similarly, it was estimated that 4% of female prisoners/detainees had a psychotic illness, 12% had major depression, and 42% had a personality disorder.⁵ This translates to several million prisoners worldwide that likely suffer from mental illness.

Attention-Deficit/Hyperactivity Disorder (ADHD) is one mental illness that is increasingly being recognized as a psychological condition that requires the attention of the medical field and community at large and that affects the prison population, including both juvenile and adult offender. ADHD is clinically characterized by impaired attention and impulse control, age-inappropriate hyperactivity, restlessness, and emotional outbursts or mood swings. Although originally considered to be a disorder that was limited to children, a number of studies have shown that the disorder can last well into adulthood.⁶⁻⁸ In fact, the National Comorbidity Survey-Replication (NCS-R) study found that about 4% of U.S. adults (18-44 years) in the general population have adult ADHD,⁹ and nearly 90% of these adults suffer from other mental disorders, including affective disorders, substance use disorders, and eating disorders.⁹⁻¹¹ ADHD may be much more common in prison populations, though. A recent study of adult prisoners in Iowa found that 22% had ADHD.¹²

Bipolar Disorder (BD) is another mental disorder that may be associated with incarceration. The lifetime prevalence of BD in the general population has been found to range from 2.6% to 6.5%, similar to the prevalence of drug abuse (4.4%) and many anxiety disorders. Although the prevalence of BD in prisoner/detainee populations is similar to that of the general population, a recent study has shown that prisoners with BD are significantly more likely than prisoners with no psychiatric disorders to have committed a violent assault and were significantly more likely to have had multiple incarcerations.¹³ Bipolar spectrum disorders often go unrecognized, largely because of the wide range of symptoms seen in the patients. These symptoms include impulsive behavior, substance abuse, fluctuations in energy level, and legal problems.¹⁴ Individuals with BD experience increased mortality from suicide, natural causes (e.g., cardiovascular disease), homicide, and accidents. Recent data suggest that BD is third only to depression and schizophrenia in causing the loss of healthy life due to premature death or disability,¹⁵ and it is second only to schizophrenia in terms of the cost to society.¹⁶

Intermittent Explosive Disorder (IED) is another disorder that is common amongst prison populations. IED presents as aggressive behavior that is out of proportion to psychosocial stressors and provocations. It is characterized by recurrent episodes of serious physical assault and/or destruction of physical property. The

recent National Comorbidity Survey-Replication showed that IED appears to have an early age of onset (15 years), high lifetime correlation with violent outbursts, and significant co-morbidity with bipolar, anxiety, and substance abuse disorders. Unfortunately, IED has a low percentage of early diagnosis and even lower percentage of treatment.¹⁷ By its very nature, the disorder is one that is likely to be more prevalent among prison populations, as the violent episodes which characterize the disorder often lead to legal consequences. Thus, prison populations would likely benefit from screening and treatment for IED.

Although ADHD, BD, and IED are common mental disorders, there has been limited research to study their prevalence among prisoner/probationer populations. This study aimed to measure the prevalence of ADHD, BD, and IED in Fort Worth's Treatment Alternative to Incarceration Program (TAIP) probationer population. TAIP is a probation sentencing diversion for offenders with substance abuse problems. Rather than being incarcerated, these offenders may choose to enroll in three or more months of substance abuse treatment, including detoxification, residential treatment, and/or outpatient substance abuse counseling, as deemed appropriate by the offender's initial assessment/evaluation.¹⁸

The study also evaluated the ability of a new mental health survey instrument to measure the prevalence of these mental disorders. The survey instrument is a compilation of other validated instruments put together by the Primary Care Research Institute. If the survey is determined to be an effective and efficient way to measure these mental health disorders, it will be used in a larger general study to measure the prevalence of mental health disorders in the general population.

PURPOSE OF THE STUDY

Although a growing body of evidence supports the hypothesis that ADHD, BD, and IED are prevalent, though under-diagnosed, among the adult prison population, few studies have investigated the characteristics of the prison population affected by these disorders or investigated their prevalence with co-occurring disorders. In an effort to fill this gap, this study aimed to assess the prevalence of ADHD, BD, and IED among a probationer population and describe characteristics of the probationer population with ADHD. The study further aimed to assess the prevalence of co-occurring ADHD and Bipolar and/or Intermittent Explosive Disorder and describe the population that has co-occurring disorders.

Study researchers aimed to test the following hypotheses:

- There is a significant prevalence of ADHD pathology in adults as measured by the World Health Organization's Self-Report Scale of ADHD symptoms.
- There is a significant prevalence of co-morbidity in adults with positive indications of ADHD with Mood Disorders and Intermittent Explosive Disorder.
- Adults with positive symptoms of ADHD also have a history of a high dietary intake of stimulants such as caffeine, nicotine, methamphetamine, and other stimulant substances.
- There is a significantly higher prevalence of Adult ADHD pathology in the prison population than in the general public adult population.
- The presence of adult ADHD symptoms is strongly related to a family history of ADHD.
- There is a significant prevalence of untreated adult ADHD and BD positive probationers in the TAIP population.
- TAIP probationers that are positive for ADHD, BD, and IED are more likely to commit certain types of crimes compared to probationers who are not positive for these mental illnesses.

METHODS

The Survey

For this study, the investigators developed an 88-question survey instrument, which incorporates three mental health screening scales that are currently accepted by the scientific community, along with additional questions designed to gather additional data relevant to the mental health disorders under study. The three scales included are:

- *World Health Organization Adult ADHD Self-Report Scale (ASRS)*
- *Intermittent Explosive Disorder Survey*
- *Mood Disorders Scale*

The other questions in the survey covered topics such as family history of disease, dietary habits, specific medical history related to the mental health disorder under study, level of education, and history of violence and/or criminal activity. To simplify the survey so that adults of various educational levels can answer it easily, all questions are asked using “yes/no” or Likert scale responses.

The survey gathers data based on participants’ self-reports. It is intended to be completed in no more than 30 minutes, but participants are able to take their time in answering questions and are not pressured to complete the survey quickly.

Data were collected from the survey for research purposes only, not for case management or treatment purposes. No data other than that provided by completion of the survey were analyzed for the purposes of the research. Surveys were anonymously administered and collected. At no time was any participant identifier recorded by the investigators.

Participant Recruitment

To recruit potential survey participants, individuals who met eligibility requirements for the study were given an introductory letter stating that the individual’s participation and responses are completely voluntary and anonymous. Given the vulnerability of the study population and seriousness of some survey questions, to encourage participation, every effort was made to assure potential participants of complete anonymity in collecting survey results.

Survey Participation

For the Pilot study, the participant answered a written questionnaire in a private space designated for the research and dropped completed surveys in a designated receptacle. The designated receptacle allowed participants to observe other completed surveys in the container to help assure them that their particular survey would be anonymously collected.

Researchers did not have any contact with the participants, and no personal identifiers were collected. The recruiter was the only person to have contact, though the recruiter did not see the participants’ answers.

TAIP probationers 18 years of age or older were invited to take the 88-question study survey. Of the 145 probationers invited to participate, completed surveys from 135 adult probationers were used for data analysis. The survey included the 18-question Adult ADHD Self-Report Scale-Version 1.1 to screen for adult ADHD and the 17-question Mood Disorders Scale to screen for BD. Additional questions were included to document personal and demographic characteristics of probationers.

RESULTS

Study Population

The survey participants were approximately one-half White, one-quarter Hispanic, and 22% Black, with 4.4% reporting a race/ethnicity other than the three aforementioned. Males accounted for nearly 70% of participants.

Prevalence of ADHD among Study Population

Study findings confirm original hypotheses. A significant prevalence of ADHD pathology was found, in addition to a significant prevalence of co-morbidity in adults of ADHD and mood disorders and intermittent explosive disorder.

Among the TAIP probation study population:

- 20.7% was positive for adult ADHD,
- 33.3% was positive for Bipolar Disorder
- 7.4% was positive for Intermittent Explosive Disorder

Prevalence of Co-morbidities among Study Population

The presence of Bipolar Disorder or Intermittent Explosive Disorder was notably higher among participants who were positive for ADHD than those who were ADHD negative. Among those who were ADHD positive, 63% also screened positive for Bipolar Disorder compared to 25.7% of those who were ADHD negative. In addition, nearly 18% of those who were ADHD positive also screened positive for Intermittent Explosive Disorder, compared to 4.7% of ADHD negative participants.

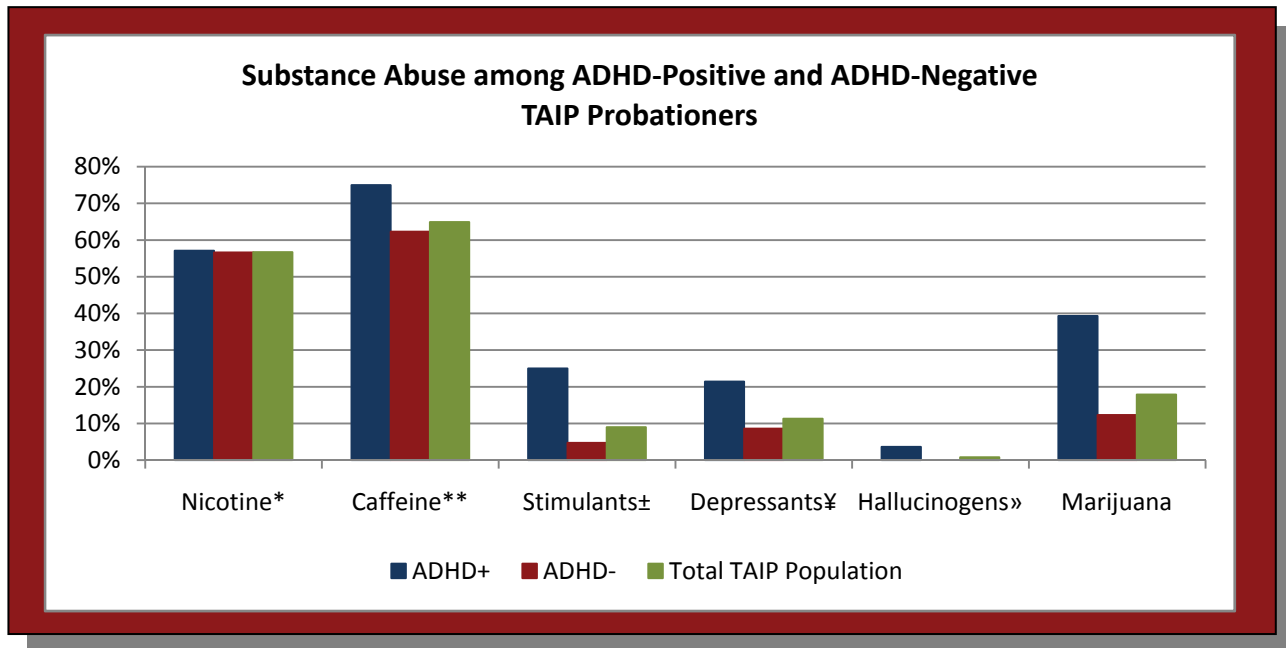
Prevalence of Substance Use among ADHD Positive Adults

Figure 1 presents results of substance use among the study population. Adults with positive symptoms of ADHD have used stimulant, depressive, and other substances at a higher rate than those without ADHD.

Compared to those who were ADHD negative:

- **Stimulants** such as cocaine, crack cocaine, and methamphetamine were used at five times the rate among the ADHD positive population.
- **Depressants** such as alcohol, heroin, and prescription sleeping and pain pills, were used at 2.5 times the rate among ADHD positive participants.
- **Marijuana** was used over three times the rate among those who screened positive for ADHD.

Figure 1. Substance Abuse among ADHD-Positive and ADHD-Negative TAIP Probationers



- * Nicotine use includes smoking or using smokeless tobacco.
- ** Caffeine products include coffee, sodas, and tea.
- ± Stimulants include speed, crack, methamphetamines, cocaine, crystal, and ice.
- ¥ Depressants include alcohol, heroin, valium, Lortab, Vicodin, and Oxycontin.
- » Hallucinogens include ecstasy, LSD, GHB, ketamine, and mushrooms.

Prevalence of ADHD and Untreated ADHD among TAIP Probationers

A conservative estimate of the ADHD prevalence among the study population is 20.7%, compared to 4.4% prevalence in the general population. In addition to the higher prevalence among the probationer population, nearly 9 in 10 of cases of ADHD were untreated. Bipolar Disorder was also prevalent and largely untreated among the probationer population with 33.3% testing positive for Bipolar Disorder and over three-quarters of those cases being untreated.

Crime among Those with ADHD, BD, or IEP

Within each of the three disorders, the rate of having committed a crime was higher for those who were positive for the disorder than for those who were negative for the disorder, with the exception of substance abuse crimes by the IED positive. (See Figures 2-4.) In addition to a higher overall crime rate for each of the three disorders, crime was higher within each of the crime categories across the three disorders among those who were positive for the disorder compared to those who were negative. The disparity of having committed a crime between those positive for the disorder and those negative was most striking in regard to IED.

- **Juvenile problems and property crimes** had been committed at an approximately 10% higher rate in those with ADHD or Bipolar Disorder than in those without, and approximately 2.5 times the rate by those with IED than those without.
- **Non-violent crimes against persons** had been committed at over a 13% higher rate by ADHD positive probationers compared to ADHD negative probationers, and over 20% higher rate by the Bipolar positive probationers compared to the Bipolar negative probationers. The same category of crime was committed at over 3 times the rate by those IED positive compared to IED negative.

- Substance abuse crimes were committed at a rate 8% higher and 10% higher, respectively, among those with ADHD and Bipolar Disorder.

Figure 2. Crime among ADHD-Positive and ADHD-Negative TAIP Probationers

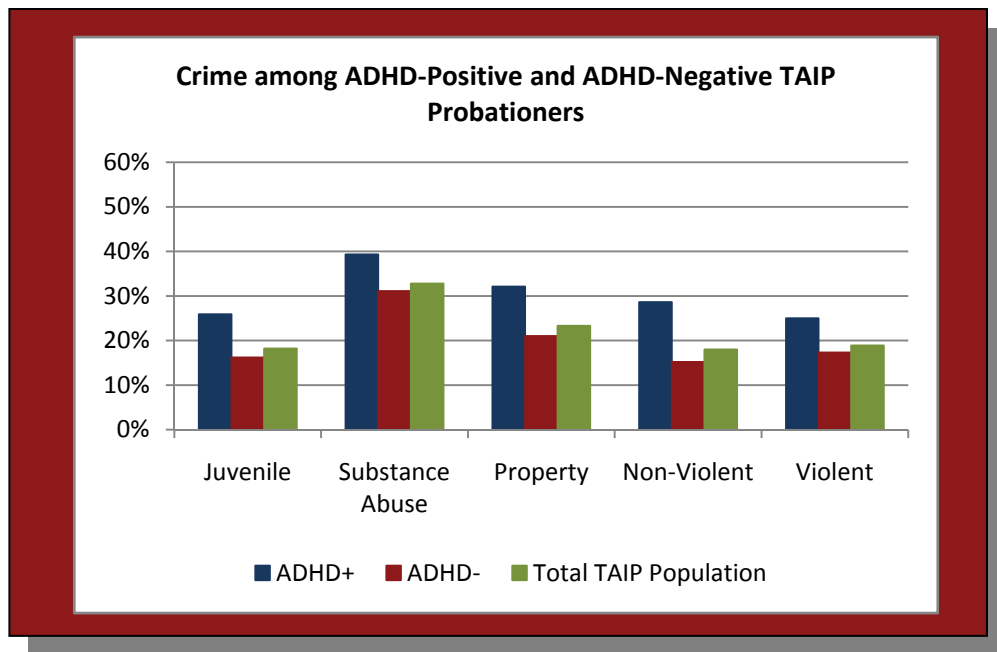


Figure 3. Crime among Bipolar Disorder-Positive and Bipolar Disorder-Negative TAIP Probationers

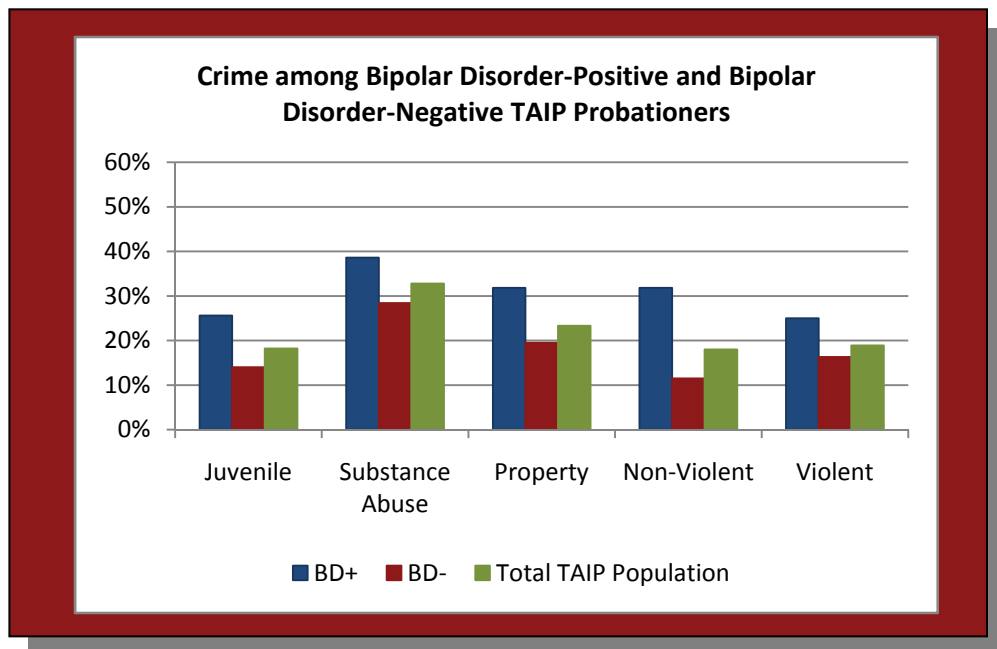
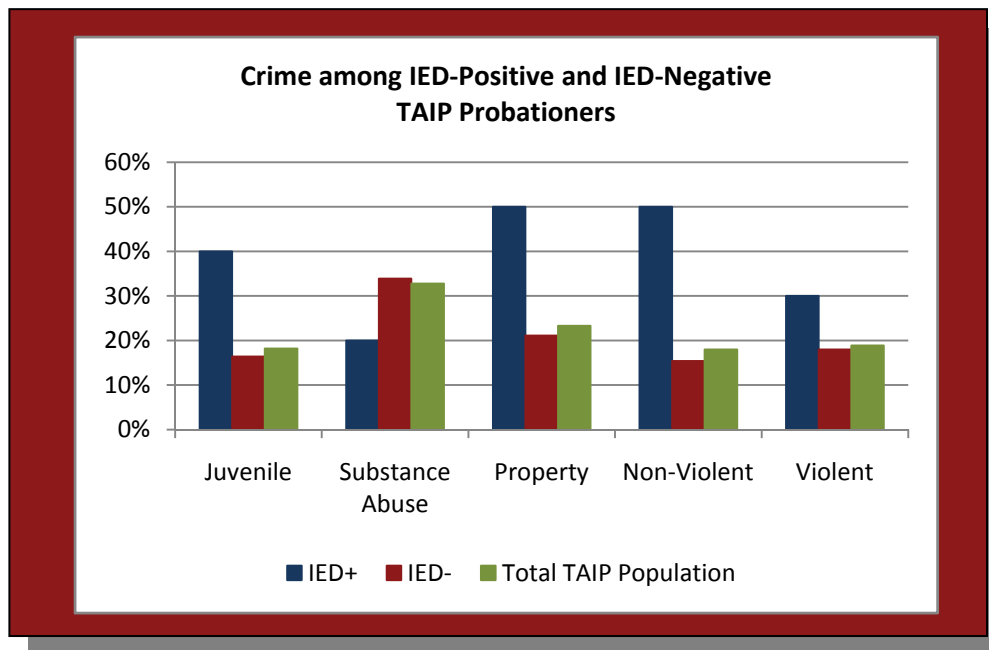


Figure 4. Crime among IED-Positive and IED-Negative TAIP Probationers



Other Findings

Family history and gender revealed notable findings. There appears to be an association among those with ADHD and having a family history of ADHD. Also, rates of ADHD, BD, and IED were each higher among women than among men.

- One-third of participants screening positive for ADHD reported having a family member who had been diagnosed with ADHD, compared to 8.5% of those screening ADHD negative.
- Twice the percentage of women (32.5%) compared to men (15.2%) were ADHD positive.
- Compared to men, women had a nearly 10% higher rate of BD and over 7% higher rate of IED.
- Compared to those screening negative for IED, participants with IED were over twice as likely to have juvenile problems (40%), or to have committed a property crime (50%) or non-violent crime against a person (50%).

DISCUSSION

Based on the prevalence of undiagnosed, untreated behavioral disorders in the probationer population, criminal activity may be related to the presence of an untreated disorder. Thus, timely diagnosis and appropriate treatment of mental disorders among this population may reduce criminal recidivism among this population.

Those incarcerated for drug use or who have a history of drug use, particularly amphetamines, may have an increased likelihood of having ADHD. The implications of this are two-fold. First, careful attention should be paid to accurately note the existence of co-occurring substance among the ADHD population. Second, a prisoner who has a history of substance use should be evaluated for ADHD.

This study points to the importance of primary care physicians screening all patients for mental health disorders. With the significant prevalence of ADHD, BD, and IED occurring in the probation population, it should be recognized that mental health screening and treatment is a key preventative step for the welfare of

patients. Not only can it improve their physical well-being and quality of life, but it can also help prevent a medical problem from becoming a legal problem and can save a great deal in societal costs.

CONCLUSIONS

This study revealed high prevalence rates of Attention Deficit Hyperactivity Disorder, Bipolar Disorder, and Intermittent Explosive Disorder in the Treatment Alternative to Incarceration Program (TAIP) probation population. These findings justify the development and implementation of a project to perform routine mental health screenings in the TAIP probation populations and in other high-risk probation populations. It is important to note that women in this sample were more likely than men to suffer from untreated mental illness. Novel tools that will enable non-psychiatrist substance abuse counselors to quickly accomplish this task need to be developed. Investigators at the Primary Care Research Institute are currently developing a Computer-Assisted Mental Health Screening Tool to screen for treatable but untreated mental illnesses in these high-risk probation populations.

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