

Institute of Law, Psychiatry and Public Policy
University of Virginia

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The mental health needs among juveniles who have contact with law enforcement agencies may vary somewhat across Virginia due to cultural and regional differences as well as the agency contact of origin. This is a prevalence report on the mental health needs and the trends in psychotropic medication use among adolescents who have been remanded to Virginia's Department of Juvenile Justice (DJJ) over the past eight years. By implication, it provides an overview of the mental health needs of adolescents committed to the DJJ.

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YOUTH COMMITTED IN VIRGINIA

Using averages over an eight-year period, about 1,550 youth are committed to Virginia's juvenile correctional facilities in any year, of whom 89% are males and 11% are females. The race/ethnic distribution of youth has changed over the years. There were significantly fewer African American youth (57%) committed to the system in 2000 than in 1993 (65%), compared to Caucasian youth who show the reverse trend. Caucasian youth comprised 40% of the total committed youth in the year 2000, compared to 32% in 1993. About 3% of committed youth were of other races or ethnic groups (e.g., Hispanic). The average age of the youth at commitment has been relatively stable, ranging from 15.6 years to 15.8 years over time.

Youth in DJJ have many difficulties, including family problems, low school achievement, and special education needs (for a comprehensive report, see McGarvey & Waite, 1999). About 30% of committed youth in any year have a parent with a history of incarceration. About 50% of youth score at least six years below their chronological age on language achievement scores. More than 40% of youth meet criteria for special education needs (i.e., Learning Disabled, Mentally Retarded, Educationally Disabled). About one-third of youth have a history of head injury, which increases their risk of having had traumatic brain injury.

ASSESSMENT OF PSYCHOLOGICAL FUNCTIONING

All youth committed to the custody of the Virginia Department of Juvenile Justice enter the system through the Reception and Diagnostic Center (RDC) located in Bon Air, Virginia. RDC is a self-contained facility with a main staff building where the offices of the Behavioral Services Unit (BSU) psychologists are located. Youth are housed in one of six living units and are transported back and forth to the main building for assessments during their initial period of incarceration.

At RDC, youth spend their first four weeks being evaluated for service needs and appropriate housing placement at one of the seven juvenile correctional facilities. During this time, each youth is assigned a caseworker who updates their social history and coordinates the assessment process. This includes a physical examination conducted by a physician and a nurse, a psychological assessment conducted by a psychologist and an educational assessment conducted by an educational specialist. Staff psychologists conduct psychological evaluations on each youth using standard clinical methodology that involves both testing and the assessment of the youth in one-on-one sessions. Case files and history of prior psychological functioning, history of prior psychiatric illness and prior psychotropic medication use, are reviewed.

Key information on each youth has determined that attention deficit disorders, depression, anxiety and psychotic illnesses have been present in the histories of many youth who are committed to Virginia's correctional facilities for juveniles. The following provides an overview of the prevalence of these disorders as indicated by the history of psychotropic medication use, previous diagnoses prior to incarceration and current DSM-IV assessment.

Attention-Deficit/Hyperactivity Disorder (ADHD)

In state fiscal year 2000, 36% of males and 30% of females committed to the juvenile correctional facilities in Virginia had a documented history of psychostimulant use (e.g., Ritalin) (Waite, 2000).

Media attention in recent years has focused on the increased medication of children in the United States for psychiatric disorders (Zito et al., 2000). Of particular note has been the increase of prescriptions to treat attention deficit disorders, particularly the use of psychostimulants such as methylphenidate (Ritalin), mixed salts of a single-entity amphetamine product (Adderall) and dextroamphetamine (Dexedrine).

Attention-Deficit/Hyperactivity Disorder (ADHD) characterized youth in early studies as those who were a) bothersome and socially awkward, b) socially "busy" or too actively involved with others, c) highly aggressive, both verbally and physically, and d) socially salient and "intense" (Whalen, Henker, & Hinshaw, 1985). The specific behavioral problems relate to the youth's inability to focus (or attention deficits), to control impulses and to control motor activity (e.g., the ability to sit still). Diagnostic criteria for ADHD, which requires onset prior to age seven, are shown in Table 1.

The prevalence of ADHD in the normal population is estimated at about 3% of the school age population (American Psychiatric Association, 1994) with higher reports up to 20% in some studies (American Psychiatric Association, 1994; August & Garfinkel, 1989; Elia, Ambrosini, & Rapoport, 1999). Gender differences are noted, with more boys than girls receiving the diagnosis (American Psychiatric Association, 1994). The etiology of ADHD tends to be correlational and not confirmed, however, with brain injury (Bryan & Bryan, 1986; Kessler, 1988); central nervous system dysfunction (Jacobvitz, Sroufe, Stewart & Leffert, 1990; Whalen, 1989); individual biochemistry (Zemetkin & Rapoport, 1987); genetic, environmental and psychosocial evidence all considered as probable contributing factors (Barkley, 1998).

While the etiology of ADHD is still under study, many children are receiving psychostimulant medication to treat the symptoms. A debate continues as to the accuracy of the medication/psychiatric diagnosis "fit" as reports of higher numbers of children receiving medication are made public. A 500% increase in Ritalin use between 1991 and 1995 was reported by one source (Diller, 1996). In addition, in reports in the Journal of the American Medical Association between 1991 and 1995, methylphenidate use among preschoolers increased 150% and "selective serotonin reuptake inhibitor" (SSRI) use increased more than 200%. At question is whether or not this increase is due to more accurate diagnoses of real medical problems or less accurate diagnoses of somewhat normal, although trying, child and adolescent behaviors. The answer to the question is not clear.

A study was conducted with parents of almost 5,000 children ages 9 to 14 over a four-year period in North Carolina by researchers at Duke (Angold, Erkanli, Egger & Costello, 2000). Of parents with children who had been treated with a stimulant like methylphenidate, 43% reported child behaviors that met the standard (or a less rigorous criterion) of ADHD. The study did not include teacher reports of the child's behavior, which was suggested to have reduced the prevalence of ADHD detected and thus weakened the findings (Angold et al., 2000). As such, a question remains as to whether or not medication

was being used to control unruly behavior in some cases instead of treating a medical or mental health disorder.

TABLE 1.

DSM-IV Criteria for Attention-Deficit/Hyperactivity Disorder

A disturbance of at least six months during which at least eight of the following are present:

- Often fidgets with hands or feet or squirms in seat (in adolescents, may be limited to subjective feelings of restlessness).
- Has difficulty remaining seated when required to do so.
- Is easily distracted by extraneous stimuli.
- Has difficulty awaiting turn in game or group situations.
- Often blurts out answers to questions before they have been completed.
- Has difficulty following through on instructions from others.
- Has difficulty sustaining attention in task or play activities.
- Often shifts from one uncompleted activity to another.
- Has difficulty playing quietly.
- Often talks excessively.
- Often interrupts or intrudes on others, e.g., butts into other children's games.
- Often does not seem to listen to what is being said to him or her.
- Often loses things necessary for task or activities at school or at home (e.g., toys, pencils, books, assignments).
- Often engages in physically dangerous activities without considering possible consequences (not for purpose of thrill seeking), e.g., runs into street without looking.

Conduct Disorder and Oppositional Defiant Disorder

Over 62% of males and 50% of females exhibit the array of symptoms for a diagnosis of Conduct Disorder (CD) in the year 2000, while 27% of males and 34% of females show symptoms of Oppositional Defiant Disorder (ODD) (Waite, 2000).

Either Conduct Disorder or Oppositional Defiant Disorder may co-occur among youth with attention deficit disorders as well as with depression and anxiety disorders. Similarities between youth who are diagnosed with Oppositional Defiant Disorder, Conduct Disorder and those with attention deficit disorders have been studied. It is generally accepted that ADHD is more likely associated with cognitive impairment and neurodevelopmental abnormalities, while Conduct Disorder and Oppositional Defiant Disorder are thought to be more related to psychosocial disadvantages (Wicks-Nelson & Israel, 1991). Hinshaw (1987) found that between 30% to 90% of youth can be classified with both ADHD and Conduct Disorder, depending upon the sample tested. Supporting these findings, youth treated in the community at a psychiatric outpatient clinic for ADHD who dropped out of treatment were found, in one study, to have more problems with the law, suggesting a co-morbid diagnosis (Pelkonen, Marttunen, Laippala, & Lonnqvist, 2000).

Tables 2 and 3 outline symptoms of Oppositional Defiant Disorder and Conduct Disorder.

TABLE 2.
DSM-IV Criteria for Oppositional Defiant Disorder

A pattern of negativistic, hostile and defiant behavior lasting at least 6 months, during which four (or more) of the following are present:

- often loses temper
- often argues with adults
- often actively defies or refuses to comply with adults' requests or rules
- often deliberately annoys people
- often blames others for his or her mistakes or misbehaviors
- is often touchy or easily annoyed by others
- is often angry and resentful
- is often spiteful or vindictive

TABLE 3.
DSM-IV Criteria for Conduct Disorder

A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated as manifested by the symptoms of three or more of the following criteria in the past 12 months, with at least one occasion present in the past 6 months.

Aggression to people and animals

- Often bullies, threatens, or intimidates others
- Often initiates physical fights
- Has used a weapon that can cause serious physical harm...
- Has been physically cruel to animals
- Has been physically cruel to people
- Has forced someone into sexual activity
- Has stolen while confronting a victim

Destruction of Property

- Has deliberately engaged in fire setting...
- Has deliberately destroyed others' property...

Deceitfulness or Theft

- Has broken into some else's house, building or car
- Often lies to obtain goods or favors or to avoid obligations...
- Has stolen items of non-trivial value without confronting a victim

Serious violation of rules

- Often stays out at night despite parental prohibitions
- Has run away from home overnight at least twice...
- Is often truant from school beginning before age 15

Figure 1 shows the percentage of youth by gender committed to the Department of Juvenile Justice in Virginia in 2000 who meet criteria for a diagnosis for Attention-Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder and Conduct Disorder. It should be noted that once a diagnosis of Conduct Disorder is made it supercedes any diagnosis of Oppositional Defiant Disorder. Therefore, youth who meet the criteria for Conduct Disorder are not included in the Oppositional Defiant.

Figure 1. Youth Who Meet DSM IV Diagnostic Criteria

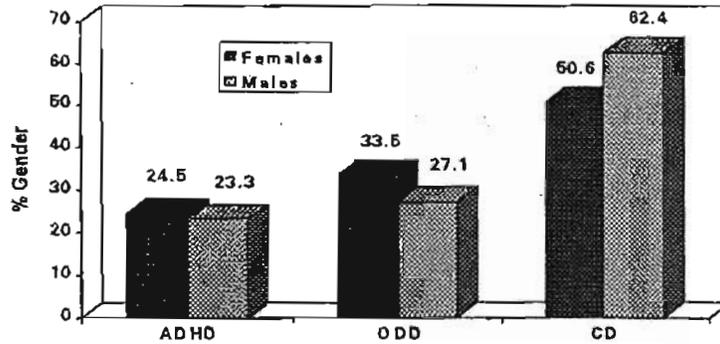
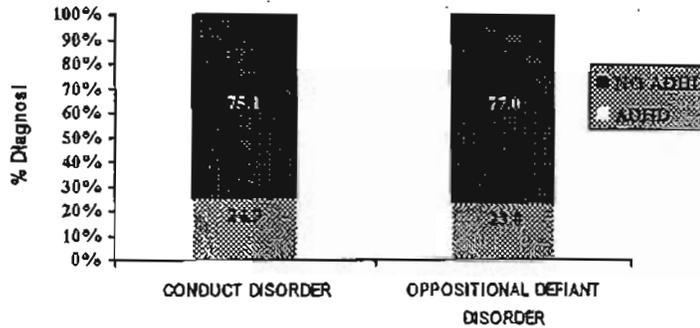


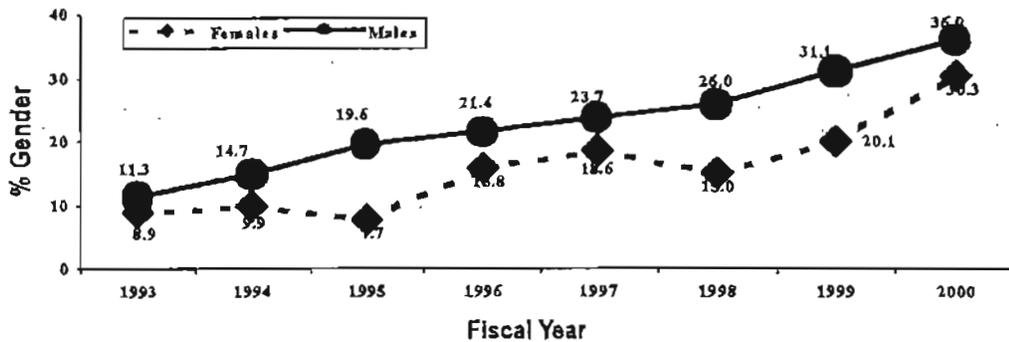
Figure 2 illustrates the percentage of youth over the past two years with a diagnosis of Conduct Disorder and Oppositional Defiant Disorder that co-occur with ADHD. As indicated, 25% of youth with a current diagnosis of Conduct Disorder also meet criteria for ADHD, which is about the same percentage of youth with Oppositional Defiant Disorder (23%) who also have ADHD.

Figure 2. ADHD with CD and ODD



In Figure 3, the eight-year trend in history of psychostimulant use (e.g., Ritalin), a standard treatment for ADHD, is presented. There has been a linear increase in the percentage of youth being remanded to the state with prior attention deficit disorders serious enough to require medication. Significantly more males than females have received medication for ADHD. About one-third of Caucasian youth, compared to about one-fifth of African American youth, in recent years reported a history of medication use for attention deficit disorders.

Figure 3. History of Psychostimulant Use



Depression

Table 4 shows the symptoms of depression. Over 38% of males and 30% of females reported a history of medication use for depression or other mood disorders (e.g., Bipolar Disorder) in the year 2000.

Among incarcerated adolescents, average rates for depression across studies are reported at about 34% (Sheras, 1999). Over the past ten years, newer, safer antidepressant medications have been prescribed for children and adolescents, particularly the selective serotonin reuptake inhibitors (SSRI) (Rushton et al., 2000). The SSRIs (e.g., Prozac, Zoloft or fluoxetine, sertraline, paroxetine) have, for the most part, replaced the prototypic tricyclic antidepressants (TCA), which had more side effects and were less well tolerated (Findling et al., 1999).

Table 4.
DSM-IV Criteria for Major Depressive Episode

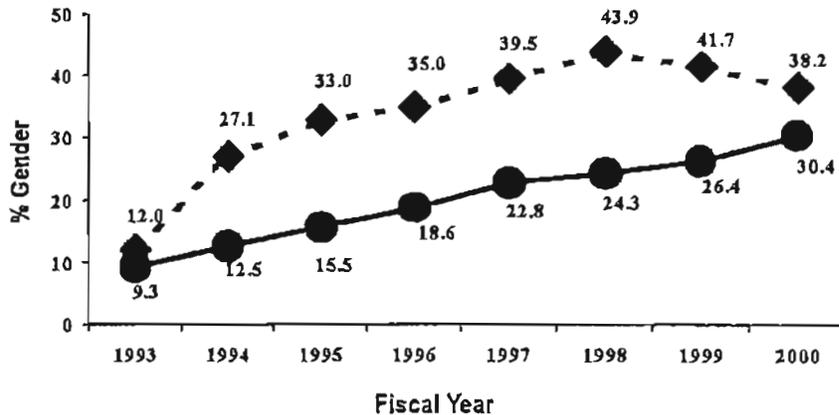
Five (or more) of the following symptoms have been present during the same 2-week period and represents a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure. Depressed mood most of the day, nearly every day, ... (e.g., feels sad or empty)

- Markedly diminished interest or pleasure in all, or almost all, activities most of the day...
- Significant weight loss... or gain...
- Insomnia or hypersomnia nearly every day
- Psychomotor agitation or retardation nearly every day...
- Fatigue or loss of energy nearly every day
- Feelings of worthlessness...
- Diminished ability to think or concentrate...

In 1999, the variable used to collect data on depression was expanded to include any mood disorder (e.g., Bipolar Disorder) in addition to depression. However, the earlier data show that over a six-year period, the history of antidepressant treatment was significantly higher for females than males in the system.

Rates of use are significantly higher among Caucasian youth compared to African American youth in any year. *Figure 4* shows the trend over an eight-year period.

Figure 4. History of Antidepressant Use



History of Antipsychotic Medication

Psychotic symptoms include hallucinations, disorganized speech, delusions and catatonic behavior. These symptoms may be noted in a number of disorders, including Major Depression, Schizophrenia, Mania, Substance Abuse and others. Fewer adolescents are received at DJJ with a history of mental illness that resulted in the use of antipsychotic medication. Typically, a higher percentage of males than females report past history of medication for these disorders.

Within the past eight years, there has been a significant increase in the numbers of males and females with histories of prior medication use for psychotic symptoms. Twice the number of females (16%) had a history of antipsychotic medication use in the year 2000 than in 1993 (8%). The reason for this increase is unclear; however, there has been some discussion of placing more youth with mental illness to DJJ because of the lack of resources in the community for providing such services.

History of Any Psychotropic Medication

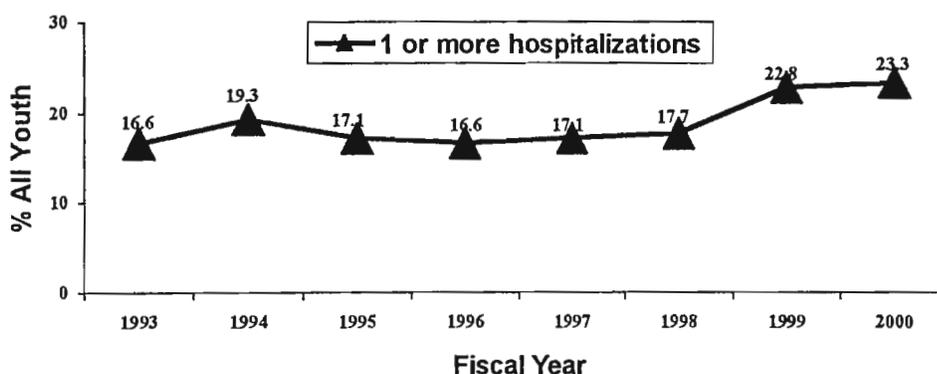
Over eight years, the percentage of males in DJJ with a history of treatment with any psychotropic medication more than doubled from 24% in 1993 to 51% by the year 2000. The increase in committed females during this time was not quite as dramatic but rose from 30% in 1993 to 52% by 2000.

Increases in the patterns of psychotropic medications prescribed by child psychiatrists in the 1990s followed the same trend found among treatment for adults as a result of the safety and perceived efficacy of the new classes of drugs (Safer, 1997). As such, the arrival of new drugs is likely to have resulted in the treatment of more youth than in previous years, when medications with more serious side effects and less effectiveness were available. However, rates of prior psychotropic medication use among Virginia's committed youth are still indicative of the seriousness of the mental health problems of these youth compared to troubled youth in the community at large. For example, in a study of psychotropic medication patterns among a random sample of school-age children in foster care, 16% of them reported a lifetime use of psychotropic medication, the most frequent of which was a psychostimulant (Zima, Bussing, Crecelius, Kaufman & Belin, 1999).

Prior Hospitalization in Psychiatric Facilities

In 2000, 15% of females and 11% of males had a history of multiple prior hospitalizations in a psychiatric facility, while an additional 12% of females and 12% of males had at least one prior hospitalization due to mental illness. *Figure 5* indicates that the percentage of youth committed to DJJ with documented mental health problems serious enough to warrant hospitalization has significantly increased over the past two years.

Figure 5. Prior Psychiatric Hospitalization

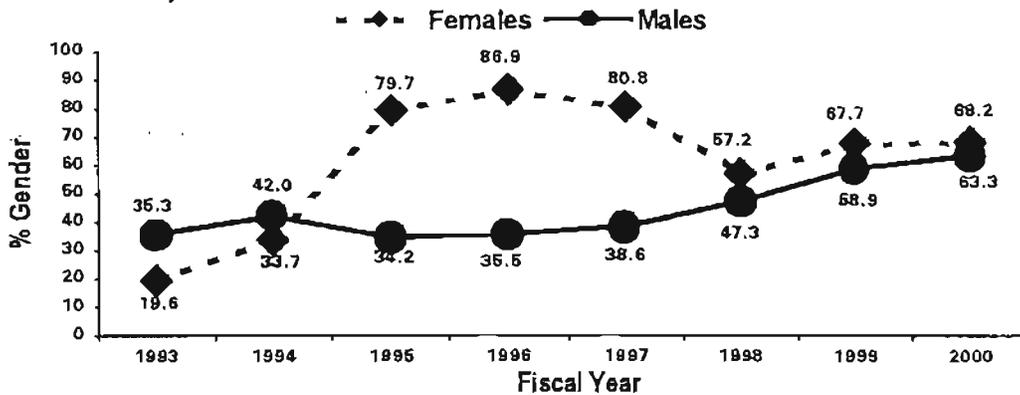


Overall Treatment Needs

At the conclusion of the diagnostic evaluation of each youth at RDC, the staffing team notes whether or not there is a designated mental health need. Those youth so identified receive a treatment plan that includes individual and/or group therapy for the youth once he or she is housed at one of the seven residential correctional facilities.

Figure 6 indicates that, in the past year, over 60% of youth had a designated mental health need as identified during the assessment at RDC.

Figure 6. Any Designated Mental Health Treatment Need



DISCUSSION

Mental health needs among youth involved with the juvenile justice system have recently received a great deal of attention on a national level. Charges that the mental health needs of incarcerated juveniles are grossly unmet in some states have led to recent federal court cases in Louisiana, Kentucky, Georgia, and South Dakota (*U.S. v. Louisiana*, 1998; *U.S. v. Kentucky*, 1997; *U.S. v. Georgia*, 1997). In these states the conditions of confinement were assailed and the states were required to enhance the delivery of mental health services even to the point of specifying the numbers and types of mental health providers. States not positioned to provide adequate mental health treatment services to youth with mental health problems invite federal oversight to legislate changes. The data from Virginia presented above provide a snapshot of the scope of the mental health problems of youth committed to DJJ in Virginia, problems that are much the same around the nation. The legislated mental health treatment requirements in a number of other states are similar in many ways to the current organization of youth assessment and standard clinical practice in Virginia.

Youth currently committed to Virginia's juvenile justice facilities show more documented mental health problems and subsequent mental health needs than did youth in earlier years. This is evidenced by the almost linear eight-year increases in percentages in both of these areas at a time when the data indicate that committed youth today are no more criminal (i.e., violent) than youth committed eight years ago. While some of the increases in identification and documentation may be an artifact of the better community or school recognition of these problems and/or improvements in available psychotropic medications, more recently committed youth appear to be a more troubled population based on reports of clinicians working within the system (McGarvey & Waite, 1999). More than 6 of every 10 admissions to the Reception and Diagnostic Center in Virginia leave that facility with a referral to the receiving facility's mental health staff. At any given time, over 700 youth in Virginia's juvenile correctional facilities require some form of mental health treatment.

While there are barriers to meeting the mental health needs of all juvenile offenders in Virginia, particularly in the community and in detention centers (Redding, 1999), Virginia has been fortunate to have the benefit of a committed legislature that had the foresight to recognize the importance of treatment in the 1950s by mandating the creation of a separate mental health authority whose sole purpose was to deliver mental health services to incarcerated youth. Today, that unit provides mental health and sex offender treatment to over 1,100 youth incarcerated in Virginia's juvenile correctional centers. The Behavioral Services Unit (BSU), with legislative support, has been able to maintain adequate staff for providing mental health services at BSU and the eight residential correctional facilities. This system of youth evaluation and placement meets all accreditation standards and more, ensuring that both the mental health treatment needs of the youth are met and that the state is protected from adverse and unnecessary litigation.

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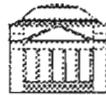
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