

## Antisocial and Criminal Behavior in Adults with AD/HD

by Sam Goldstein, PhD

**OVER TWENTY YEARS AGO** it was suggested that 25 to 45 percent of the children diagnosed with AD/HD would demonstrate some level of antisocial behavior as adults. Anecdotal reports have long suggested an over-representation of AD/HD in incarcerated individuals. Adults with AD/HD are less likely to graduate from high school than their peers, less likely to attend college, and even less likely to graduate from college. They are more likely to enter the workforce at a lower level than their siblings and less likely to be promoted, though they are reportedly employed at a rate similar to the general population. Nonetheless, they are likely to experience many more job changes. Rates of substance use and abuse are reported as much higher, with lower rates of remission and higher rates of relapse. Rates of mood and anxiety disorders are also consistently reported to be higher in adults with histories of AD/HD.

Though many young adults with AD/HD transition into adult life without experiencing these risks, there is a strong scientific consensus that having AD/HD in childhood places the individual at significantly greater risk for a host of problems in adulthood. Articles published over the past ten years highlight a broad range of risks and adverse outcomes in adulthood associated with antisocial and criminal behavior and related issues in adults with AD/HD.

---

► **Babinski, L., Hartsough, C. & Lambert, N. (1999).** *Childhood conduct problems, hyperactivity-impulsivity and inattention as predictors of adult criminal activity.* *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 40(3), 347-355.

In a sample of 230 male and 75 female subjects followed prospectively into young adulthood, the relationship of childhood-diagnosed AD/HD, conduct problems, and adult criminal activity was evaluated. Early childhood behavior ratings by parents and teachers were evaluated based upon their ability to predict adult criminal involvement as measured by official arrest records and self-report. Hyperactivity and impulsivity and early conduct problems independently as well as jointly predicted a greater likelihood of having an arrest record for males but not for females. The authors concluded that these factors but not inattention contributed to the risk for criminal involvement over and above the risk associated with early conduct problems alone. These data lend further support to the increasingly

---

*Sam Goldstein, PhD, is a member of the faculties of the University of Utah and George Mason University. He is the clinical director of the Neurology, Learning, and Behavior Center in Salt Lake City, and serves as editor in chief of the Journal of Attention Disorders. Goldstein is a contributing editor to Attention magazine and a member of its editorial advisory board.*

accepted hypothesis that problems with poor self-control rather than inattention appear to offer the best prognostic markers for many adult risks associated with AD/HD.

---

► **Kelly, B.T., Loeber, R., Keenan, K. & DeLamatre, M. (1997, December).** *Youth Development Series: Developmental pathways in boys' disruptive and delinquent behavior.* *Juvenile Justice Bulletin.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice.

Based on the longitudinal data collected in the Pittsburgh Youth Study, these authors investigated developmental pathways for disruptive and delinquent behavior in boys. They identified three pathways showing progressively more serious behaviors. First, the authority conflict pathway (e.g., defiance, truancy, and running away) represents conflict with and avoidance of authority figures as opposed to respect for authority figures. Second, the covert pathway represents lying, vandalism, and theft as opposed to honesty and respect for property. Third, the overt pathway represents aggression and violent behavior as opposed to positive social problem solving. Of interest is the rate of AD/HD among those who persist in disruptive and delinquent behavior on these developmental pathways. Particularly among the youngest males in the sample, the overlap was 30 percent with the authority conflict pathway, 35 percent with the covert pathway and nearly 40 percent with the overt pathway. The results clearly demonstrated that males with AD/HD were at risk to become experimenters and even more so to become persisters in one or more of these developmental pathways. This review provides a logical, research-based framework to understand the development of disruptive and delinquent behavior in males with AD/HD.

# What Have We Learned?

- › The risk factors predicting adult problems with antisocial and criminal behavior appear different for males and females.
- › Females with AD/HD may have a higher risk for admission to psychiatric adult facilities than males with AD/HD. This risk appears to be greatly increased when females experience comorbid conduct problems.
- › The diagnosis of AD/HD in and of itself places youth at risk for all three of the developmental pathways leading to disruptive and delinquent behavior.
- › In youth with AD/HD, perceptions of their academic abilities may be an important predictor for the development of antisocial and criminal behavior in adulthood.
- › In addition to experiencing a complex set of comorbid problems, adults with AD/HD miss significantly more workdays due to unofficial absences and experience higher outpatient medical costs directly attributable to the AD/HD.
- › The combination of AD/HD and conduct disorder in childhood is a significant predictor of risk for adult-onset criminal and antisocial behavior.
- › AD/HD appears to be over-represented in prison populations, but prevalence rates vary and are mediated by factors specific to the samples, assessment methods, and diagnostic criteria. Not all studies agree. Among groups of male prisoners convicted of serious crimes, nearly 50 percent self-report symptoms consistent with AD/HD.
- › Prisoners with AD/HD are likely to require more intensive mental health services than other prisoners because of higher rates of comorbid disorders and suicide risk.
- › Although we are learning more and more about the relationship of AD/HD to risk for antisocial and criminal behavior, it has yet to be consistently demonstrated in the research science that these at-risk trajectories can be modified with treatment, unfortunately.

LOUWATERS / ISTOCK

---

► **Pisecco, S., Wristers, K., Swank, P., et al. (2001). The effect of academic self-concept on ADHD and antisocial behaviors in early adolescence. *Journal of Learning Disabilities, 34(5), 450-461.***

Using a structural equation modeling technique, the authors evaluated the effect of academic self-concept on the development of AD/HD and antisocial behaviors in the early adolescent years. Four hundred and forty-five participants were recruited from the Duneden multidisciplinary health and developmental research study. The results indicated that academic self-concept appeared to be an important construct that directly contributed to the development of antisocial behaviors rather than symptoms of AD/HD at age thirteen. Thus, symptoms of AD/HD appear more likely to be biologically rather than environmentally based. In contrast, the development of antisocial behavior did appear to be directly influenced by children's perception of their own academic abilities and the presence of antisocial behavior during childhood.

---

► **Secnik, K., Swensen, A., & Lage, M.J. (2005). Comorbidities in costs of adult patients diagnosed with attention-deficit hyperactivity disorder. *Pharmacoeconomics, 23(1), 93-102.***

A retrospective study examined comorbidities, medical costs, and missed workdays for adults with AD/HD. Adults diagnosed with AD/HD between 1999 and 2001 were identified from a large claims database, finding over 2,000 subjects. They were matched with a non-AD/HD group based on age, gender, geographic location, and insurance coverage. Those diagnosed with AD/HD were more likely to have comorbid diagnoses, including asthma, anxiety, bipolar disorder, depression, substance and alcohol abuse, and antisocial personality or oppositional disorder. When comorbidity was controlled, adults with AD/HD still had higher outpatient costs, inpatient costs, and prescription drug costs compared to non-AD/HD counterparts.

Over \$2,000 in additional medical costs were associated with the diagnosis of AD/HD. Further, this group missed significantly more workdays due to unofficial absences.

---

► **Dalsgaard, S., Mortenson, P., Frydenberg, M., & Thomsen, P.H. (2002). Conduct problems, gender and adult psychiatric outcome of children with attention deficit hyperactivity disorder. *British Journal of Psychiatry, 181(5), 416-421.***

These authors screened records of youth admitted to psychiatric facilities between 1969 and 1989, seeking to identify those referred and treated for inattentive and hyperactivity problems. Two hundred and eight cases (183 males, 25 females) were identified. In this population of Danish youth, nearly 23 percent had at least one adult psychiatric admission with a mean age of 23 years. Twenty-nine percent were admitted for personality disorders (half of which were antisocial), and 15 percent were admitted for mood disorders. Females with AD/HD had a higher risk of psychiatric admission in adulthood compared with males who had AD/HD. This risk greatly increased when a female presented with a comorbid conduct problem. Although this finding could represent a referral bias, it appears more likely that patterns of comorbid problems that vary between genders with AD/HD are responsible for these differences.

---

► **Vitelli, R. (1998). Childhood disruptive behavior disorders and adult psychopathy. *American Journal of Forensic Psychology, 16(4), 29-37.***

This author studied the relationship between childhood conduct disorder and AD/HD and adult antisocial personality disorder in a sample of 118 maximum security inmates. The results confirmed that childhood conduct disorder and

AD/HD were significantly related to adult antisocial personality disorder, psychopathy, and impulsivity. The results replicated previous findings by this author with inmates reporting the inmates with childhood conduct disorder were significantly worse than those without childhood conduct disorder for history of adult violence, substance abuse, and institutional misconduct.

---

► **Rasmussen, K., Almvik, R., & Levander, S. (2001). Attention deficit hyperactivity disorder, reading disability and personality disorders in a prison population. *Journal of the American Academy of Psychiatry and the Law*, 29(2), 186-193.**

These authors evaluated 82 male prisoners convicted of serious offenses. Forty-six percent exceeded the cutoff score of 46 for AD/HD on the Wender Utah Rating Scale. Another 18 percent scored in the screening window of 35 to 45. Thirty percent met criteria for adult AD/HD, and 16 percent had scores indicating probable AD/HD. Forty-two percent of the prisoners with AD/HD had reading problems compared to 25 percent of the non-AD/HD prisoners. Eighty-six percent of the prisoners qualified for a diagnosis of personality disorder with a significant relationship seen between AD/HD and personality disorders. This correlational research is valuable, particularly in designing treatment programs. It remains to be demonstrated whether there is a cause-and-effect relationship between AD/HD and other life variables increasing risk of incarceration.

---

► **Westmoreland, P., Gunter, T.D., Loveless, P., Allen, J., Sieleni, B., & Black, D.W. (2009, Mar. 6) Attention deficit hyperactivity disorder in men and women newly committed to prison: Clinical characteristics, psychiatric comorbidity, and quality of life. *International Journal of Offender Therapy and Comparative Criminology*. [Epub ahead of print].**

The authors evaluated a random sample of 319 male and female prisoners entering a reception facility for the Iowa Department of Corrections using the MINI-Plus to assess DSM-IV disorders and suicide risk and the Medical Outcome Study Health Survey (SF-36) to assess life functioning. Sixty-eight prisoners (21.3 percent) were found to have adult persistent AD/HD with a strict protocol that required childhood criteria to be met, with some symptoms before age seven, before adult symptoms were assessed. Higher percentages of men (23.1 percent) than women (14.3 percent) were identified with AD/HD, but the difference in the sample was not significant. Psychiatric and substance use disorders were common in prisoners with and without AD/HD, but no significant differences were found between the groups for substance abuse. However, compared to those without AD/HD, prisoners with AD/HD had significantly higher rates of mood, anxiety, psychotic, somatoform, and personality disorders and reported worse mental, emotional, and social functioning. AD/HD strongly predicted suicide risk, conferring more than a twofold increase. The authors concluded that prisoners with AD/HD are likely to need more intensive mental health services than other prisoners to address comorbid disorders and greater suicide risk. ●