

Perils and Pitfalls of Impaired Attention: A Systematic Review of Study Findings Regarding Maladaptive Behavioral Manifestations and Contact with the Criminal Justice System from 1960 to 2000

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Abstract

This article systematically reviews study findings associated with impaired attention as well as with Attention Deficit/Hyperactivity (AD/HD) from 1960 to 2000 and delves into an intense look at maladaptive behavior and associated adverse outcomes such as contact with the criminal justice system. To this end, it is suggested that prevention and intervention programs are critical and necessary for preventing any maladaptive behaviors, associated psychopathology, and problematic outcomes resulting from early childhood impaired attention in adulthood.

Key words: Attention Deficit/Hyperactivity Disorder, attention, concentration, maladaptive behaviors, delinquency, psychopathology, drug use

Introduction

Although impaired attention is one of the least understood psychiatric symptoms, the behavioral disturbances manifested as a result are well-recognized in a childhood disorder known as Attention Deficit/Hyperactivity Disorder (AD/HD; Diagnostic and Statistical Manual for Mental Disorders –IV [DSM-IV], 1994). The American Psychiatric Association estimates that as many as 30% of all school-aged children may be afflicted with attention problems and that 3% to 5% may fit the diagnostic criteria for AD/HD, i.e., the inability to sustain attention, impulsivity, and hyperactivity are the three primary symptoms of AD/HD (American Psychiatric Association, 1994). Although many early childhood disorders are ephemeral in nature, this is not the case for children diagnosed with AD/HD.

This article reviews study findings from 1966 to 2000 that has consistently linked AD/HD and impaired attention to social maladaptation, that is, contact with the criminal justice system. The articles referenced in this review were part of a master's thesis and a published doctoral dissertation literature search. The goal was to conduct a comprehensive literature search, and explore the social and psychological aspects of impaired attention, including AD/HD, as related to societal settings. The systematic review was conducted using Pubmed as well as psychology and criminal justice databases such as PsycInfo and Criminal Justice Periodicals.

As early as the 1960's, Pribram (1960, 1967) found that children who exhibited symptoms of attentive dysfunction, e.g., lack of vigilance in the attentive process and restlessness, tended to experience an inability to socially function within the expressed norm, i.e., experienced social difficulties, had problems with interpersonal relationships, and tended to stand out in a crowd as a result of their behavioral dispositions, compelling negative attitudes from others around them (Pribram, 1960; Pribram, 1967). Researchers found that these children displayed maladaptive behaviors, had difficulties interacting with others (Anthony et al., 1996) and exhibited gaps in their developmental skills as they grew older (Loney, 1974). Unfortunately, the problems experienced by children with AD/HD tend to be socially defined (Wender, 1971) partly as a result of their inability to function within social codes, their immature development, and delayed socialization skills (Kaufman, 1990). AD/HD children encounter more social problems such as greater peer rejection, more family interaction conflicts than normal children, are at greater risk of being abused (Barkley, 1981) and may be portrayed as living in chaotic and disorganized family environments (Satterfield et al., 1979).

In part, the social problems encountered by this population relate to responses elicited from others because of frequent temper tantrums and quick-temper (Beck, 1972) resulting in being characterized as having a low threshold for problems (Dykman et al., 1979; Dykman et al., 1980). They may explode, panic easily, or get overly excited in their interactions with others (Beck, 1972). Studies suggest that AD/HD children are impulsive, disruptive, and noncompliant (Henker et al., 1989). Clinical findings suggest the presence of dysphoria in children diagnosed with this disorder. The major dysphoric symptoms include anhedonia and excessive anxiety (Wender, 1971), depression (Cytryn et al., 1972) and low self-esteem (Weiss et al., 1971).

AD/HD children also experience higher academic failure rates than normal children that appear to be related to low self-esteem (Minde et al., 1971). These include poorer grades (Riddle et al., 1976), frequent repetition of grades (Hechtman et al., 1976) and poorer performance on standardized tests (Cantwell et al., 1978). Overall, this disorder has been viewed "as a transactional disorder, located in the interface between the child and his social worlds" (Henker et al., 1989, p. 217).

Clinical studies suggest that children with AD/HD develop concomitant and/or concurrent disorders. Longitudinal studies of AD/HD children and normal children suggest that children with AD/HD develop more psychopathology than normal children (Huessy et al., 1974; Satterfield et al., 1982). The symptoms associated with oppositional defiant disorder are characteristically interpersonal in nature such as defying or refusing adult requests or rules, and may be suggestive of conduct disorder, e.g., initiating physical fights and destroying property (Laufer, 1962; Menkes et al., 1967; Ackerman et al., 1977; Loney, 1983; Shapiro et al., 1986). Conduct disorder frequently evolves from oppositional behavior. The propensity for violence in conduct disorder correlates with severe psychopathology, as well as subtle neurological anomalies, cognitive deficits, and paranoia (DSM-IV, 1994). In addition, the psychiatric hospitalization of children with AD/HD exceeds the expected rate (Huessey et al., 1974). AD/HD is also one of the few childhood disorders known to predict serious adult social and psychological pathology. Findings suggest that AD/HD individuals may develop

psychopathological conditions such as episodic discontrol, sociopathy, and psychosis (Laufer, 1962; Huessey et al., 1974; Borland et al., 1976; Wood et al., 1976; Tarter et al., 1977; Satterfield, 1978).

Moreover, findings indicate that children with AD/HD tend to become more involved with the juvenile justice system and have more court appearances than normal children (Conger et al., 1966). A significant relationship has been found between childhood AD/HD, teenage offender rates, and the number of subjects arrested. A 25 percent institutionalization rate for delinquent behavior was found for AD/HD subjects as compared to 1 percent for the control group. It was further reported that a high rate of felonies were committed by AD/HD subjects (Satterfield et al., 1982). A related study comparing hyperactive youth with their brothers found that more probands than their brothers were unemployed, lacks a permanent address, and had impaired personal relationships. The probands more often carried guns and knives, and had been involved in fights using these weapons. Their offenses were more serious and they had spent more time in jail (Loney et al., 1981). Overall, evidence supports the notion that AD/HD is a risk factor for later delinquency (Loney et al., 1981; Satterfield et al., 1982). Furthermore, the comorbidity of AD/HD with antisocial behavior has been found to be a better predictor of recidivism than self-reported early delinquency (Moffitt et al., 1988).

The relationship between attentional difficulties at age 8 and psychosocial outcomes at age 18 were investigated by Ferguson et al. (1997). Escalating attentional difficulties during middle childhood were associated with an increased risk of academic failure or difficulties and juvenile offending (Ferguson et al., 1997). Siponmaa et al. (2001) in a retrospective study of young offenders with ADHD aged 15-22 years found contact with the criminal justice system. Offenders were consecutively referred for pre-sentencing forensic psychiatric investigations, and that offenders were referred for these investigations due to being adjudicated for serious offenses. In 2002, Pascual-Castroviejo suggested that the presence of comorbid disorders in ADHD children predisposed them to contact with police and the criminal justice system during their entire life. Connor et al. (2003) found that an early age of onset of ADHD was correlated with a greater rate of aggressive symptoms as reported by parents. Young and Gudjonsson (2005) found a positive correlation between a delinquency scale and ADHD. Pardini et al. (2006) reported that boys in elementary school who exhibited inattention problems were at risk for delinquent behavior. Specifically, inattention problems predicted delinquency persistence.

Related findings indicate that AD/HD by itself is a significant risk factor for substance use disorders (Biederman et al., 1995) and has both important and practical consequences for the understanding and management of neuropsychiatric disorders such as drug use and addiction (Bechara and Van Der Linden, 2005). Evidence suggests that untreated childhood ADHD may be a risk factor for developing substance use disorders (Szilagyi et al., 2007). Prospective studies of children with AD/HD have shown a high level of substance use comorbidity (Retz et al., 2007). Along the same realm, Wilens et al. (1997) found that AD/HD was associated with earlier onset of substance use disorders independent of psychiatric comorbidity. Schubiner et al. (2000) found individuals who manifest AD/HD represent a significant proportion of those seeking treatment for substance use disorders. In addition, a significant overrepresentation of AD/HD exists among inpatients with substance use disorders (Schubiner et al., 2000).

New evidence on the horizon that has begun to accumulate in the past decade suggests that encoding, an element of attention, reflecting the ability to recall and reorder information stored in memory, in early childhood in a randomized community-based epidemiological sample is a significant predictor of problematic outcomes such as aggressiveness, drug use such as heroin use, arrests and convictions for possession with intent to distribute a controlled dangerous substance, alcohol use, tobacco use, and school outcomes at age 19-21

(Tsamis, 2009; 2013). Tsamis, Rebok, and Montague (2009) reported a relationship between encoding and aggressive behavior as measured by the Buss-Durkee Aggression questionnaire. Tsamis (1996) reported that encoding, as posited the Mirsky et al's (1991; 2001) attention model, in an epidemiological sample of second graders significantly predicted aggressive behavior among sixth grade boys and girls as rated by teachers. Within this context, difficulties with encoding ability appear to be associated with social maladjustment and may point toward a new direction in investigating aggressiveness.

Furthermore, teacher ratings of concentration problems in second grade predicted teacher ratings of aggressive behavior in sixth grade in females (Tsamis, 1996; Rebok and Tsamis, 1997; Tsamis, 1997; Tsamis, 1998a; Tsamis, 1998b). Rebok et al. (1996) reported that encoding problems are precursors to behavioral problems and emotional disturbances in children. This evidence builds upon a collaborative effort between the Hopkins Prevention Research Center and the National Institute of Mental Health, where researchers found that concentration problems in childhood cohorts led to aggressive behavior, showing an evolving pattern of co-occurrence between concentration and aggression (Kellam et al., 1991; Dolan et al., 1993; Rebok and Tsamis, 1997). These findings concur with earlier findings of the Woodlawn studies which reported that concentration problems appeared to be related to maladaptive behaviors, e.g., rule breaking, noncompliance, and fighting (Kellam et al., 1975). Concentration problems emerged as the common factor underlying both poor social adaptation status and psychological well-being. Concentration problems preceded aggressive behavior making concentration abilities a significant predictor of early social maladaptation (Kellam et al., 1991). Also, Kellam et al. (1991) noted that "boys rated as aggressive showed poorer attention skills in tasks requiring the encoding of information (p.578)". In addition, children who exhibited concentration problems in the fall of first grade were rated as being aggressive by the following spring by teachers. Although later aggressive behavior was predicted by early concentration problems in males, these two behaviors appeared to have a reciprocal relationship in females. Concentration problems in the fall of first grade preceded aggressive behavior in the spring while aggressive behavior predicated later concentration problems for females (Kellam et al., 1991). Within this context, aggression remained stable from the fall of first grade and over the following six years (Dolan et al., 1993). Evidence supported the notion that "aggressive behavior in first grade or earlier, for example, is a significant predictor of criminal or assaultive behavior in adolescence or adulthood (Kellam et al., 1992, p. 169). Overall, results suggest that "rather than a categorical disorder, concentration/attentional problems may well be evidence of a general developmental psychopathology with potential for expression in many forms, including behavior, affect, and learning" (Kellam et al., 1991, p. 579).

Conclusion

One of the major roles of epidemiology is to serve as the basis for developing policies that prevent and/or control pathological conditions that affect human health. Once populations at an increased risk are identified, the next step is whether a population-based or a high-risk approach should be considered in formulating policy to address the health problem. Selection is guided by the cost and benefits of reducing exposure. In other words, whether or not a prevention program or an intervention is implemented is influenced by political and economic influences, as well as the value that society places on a particular problem (Gordis, 1996). Given the evidence of impaired attention and its role in social adaptation, it is suggested that a policy for both prevention and interventions addressing attention problems is vital and necessary in creating a strategy to reduce maladaptive behaviors and problematic outcomes.

Because children may be more vulnerable as a result of impaired attention, early prevention and intervention programs should address a decrease in attention problems. The emergence of cumulative findings present a unique opportunity to create an innovative working relationship between the fields of public health and criminal justice given the set of behaviors that have been termed maladaptive behavior by mental health researchers have been linked to problematic outcomes that criminologists may eventually refer to as delinquency and criminality.

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