

The impact of ADHD on morality development

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Abstract Attention deficit hyperactive disorder (ADHD) is one of the most commonly diagnosed childhood mental disorders. This pervasive disorder can affect all aspects of the child's life, including, but not limited to: peer relations, adult relations and intellectual development. As a direct result of ADHD, many of these deficiencies pervade through the child's life into adulthood. Although there is a growing number of literature focusing on the sequela of ADHD, especially social deviance, most of the literature's scope is limited to the connection between ADHD and criminality. This finite perspective provides little insight into the developmental characteristics which actually link ADHD to criminality. The most glaring example of an obscured developmental link is that of moral judgment. The following is an attempt to draw a meaningful connection between deficient moral development and ADHD, especially as it relates to attachment theory. Connecting previous research relevant to the topic as well as time-tested psychological theories on morality and attachment will serve to validate this claim.

Keywords Attention deficit hyperactivity disorder (ADHD) · Morality · Attachment · Social development · Criminality · Children and adolescents

Societal cohesion, coexistence and cooperation are central to the success of any society. Be it the Greeks' creation of

democracy or the Romans' refined republic, human beings have shown a propensity toward these pillars of society. These actions are observable through the nuanced behaviors, thoughts, and emotions in individual human relationships. The developmental phenomenon known as "moral judgment" encapsulates and consolidates these areas of individual functioning to spawn a higher likelihood of successful socialization. Moral functioning and socialization are profoundly intertwined and interdependent, unable to exist without the other. A child who never learns to share will never form friendships; a deficit in moral functioning can lead to tragic consequences that can inhibit or damage these aforementioned pillars. Certain mental disorders, such as antisocial personality disorder, often correlate with shortcomings in moral judgment leading to the behavioral, emotional, and a myriad of social issues. The past two decades have seen a rise in the diagnosis of attention deficit hyperactive disorder (ADHD) affecting 5–7 % of the population, one of the most commonly diagnosed mental disorders (Barkley 1998). ADHD, ostensibly, would not appear to affect moral functioning in the same manner in which antisocial personality disorder affects moral functioning; however, ASPD is a possible outcome for ADHD if left untreated according to Mannuzza et al. (1998). One possible reason for this outcome is the potential ADHD's initial effect on the attachment process, and later reinforced by the effect ADHD can have on social competency. Just as moral functioning and socialization are inextricably linked, so too are they largely dependent upon successful attachment to a primary caregiver.

Morality's main purpose is to allow for harmonious human interactions devoid of malfeasance, malice, and mendacity. Morality in modern psychology is the combination and concerted workings of cognitions, emotions, and

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behaviors in relation to four basic elements: empathy, justice, honesty, and self-control (Broderick and Blewitt 2006). According to Kohlberg, this development is believed to occur in stages: the pre-conventional level, the conventional level, and the post-conventional level (Broderick and Blewitt 2006). Each level signifies a distinct moral reasoning acumen resulting from an endogenous process largely affected by environmental factors. The hopeful outcome of this process is an individual readily able, capable, and willing to distinguish and execute morally sound decisions.

Many factors play a sustained role in the development of moral reasoning. Wilson makes a cogent case for the relationship between attachment and moral development. The crux of his argument is rooted in the natural cultivation of morality for socialization resulting from the attachment process (Wilson 1993). Desire for attachment or affiliation drives human moral conduct (Wilson 1993). Affiliation with a group requires a degree of adequate moral reasoning, especially as it relates to social competency. ADHD can have a direct and devastating impact on social skill acquisition and success (Erhardt and Hinshaw 1994; Pelham and Bender 1982) but the child with ADHD may first be affected in the capacity for moral judgment by forming insufficient attachments (Vaughn and Bost 1999; White 1999). The possible impact of ADHD on socialization is irrefutable.

What is not adequately elucidated in the DSM 5 criteria for ADHD are the social problems related to ADHD. Due to communication and social information processing issues, those who are affected by ADHD are especially vulnerable to social incompetency (Dumas 1998). These children can have difficulty negotiating between the reception and conveyance of information usually characterized through the children's insufficient communication of concepts by speech (Dumas 1998). Research on this subject goes on to explain that these individuals tend to develop biases and deficits in social-cognitive skills (Dumas 1998). Boys with ADHD can experience deficits in observing pertinent social cues instead interpreting hostility from their peers during unclear provocations as well as responding aggressively to those provocations (Milich and Dodge 1984). This misperception of social cues is an immensely intriguing and a critical fiber in the destructive nature that ADHD can have on socialization and can lead to misdiagnosis. Not only does it impact the way in which peers may respond to a child who is difficult with which to interact usually resulting in rejection (Carlson et al. 1987) but it impacts the way in which the child begins to view the world around him, affecting his conceptualization of people in general usually for the negative.

Peer rejection can lead to a slew of behavioral/emotional issues for a child such as, but not limited to, problems with

self-esteem, depressed mood, and antisocial behaviors (Robbins 1986). The negative social interactions can leave those with ADHD at a loss for how to understand their emotional experiences. Lacking emotional processing capabilities is linked to the development of poor social competence (Semrud-Clikeman and Schafer 2000) as the unobstructed development leads to efficiency of emotional processing and social competence. This inefficiency is traced back to the child at 10–12 months whose inability to pay attention to how those around him react to everyday situations leaves that child unable to metabolize both proper reaction and eventual emotional expression (Semrud-Clikeman and Schafer 2000). Often, those with ADHD show an increased tendency of emotionality, explosiveness, mood lability, and oppositional as well as defiant behavior (Barkley 1990) which is due, in high probability, to the child's insufficient emotional processing. This phenomenon almost always leads to further complications as the inability to gain adequate emotional processing capabilities can lead to deficits in empathetic understanding.

A child's emotional life, as well as their proficiency in handling those emotions, is the foundation upon which the child experiences him/herself as well as how they interact with others (Eisenberg et al. 1995, 1997). Emotional competence can only be gained through the development of: an awareness of one's emotional state, the ability to discern another's emotional state, the ability to use emotion words, empathize with others, and the ability to manage emotionally distressing incidences by successfully coping (Saarni 1999). Rather evident is that those with ADHD suffer a major disadvantage in being able to progress through and develop these skills as they require intensive social competence.

Emotional competence is partly dependent upon empathy and thus empathetic development; both of which require that an individual be able to both endogenously and exogenously understand an emotional event (Semrud-Clikeman and Schafer 2000). Sufficient understanding requires the development of emotional language (Semrud-Clikeman and Schafer 2000) a processing event that can be disrupted by ADHD (Dumas 1998) due to deficits in social competence (Semrud-Clikeman and Schafer 2000). It is a cyclical effect that can devastate and reinforce maladaptive emotional and social functioning.

Due to these maladaptive emotional and social workings, it is understandable that individuals with ADHD are at increased risk of criminal behavior (Farrington et al. 1990; Pratt et al. 2002; Savolainen et al. 2010). In point of fact, 2/3 of juvenile offenders that are placed in institutions are diagnosed with ADHD (Young 2007). The increase in criminal behavior has roots in the educational failure to which so many with ADHD are prone (Lindgren et al. 2002; Rosler et al. 2004). Often children with ADHD are

stigmatized in the school setting be it through ability tracking (Berends 1995; Kelly 1978) or punitive disciplinary practices (Hirschfield 2008) which can lead these children to identify with criminality and deviance more easily (Savolainen et al. 2012). Though the increased risk for antisocial behavior and lifestyle exists for those with ADHD, it does not mean that all cases are invariably at increased risk. Rather, the course of ADHD is varied with diversified prognoses. However, it is evident that the propensity for a deficiency in moral reasoning or capability, as defined earlier, is characteristically present within these individuals. However, this propensity has deeper causes than that which has been discussed thus far.

First, there is a multitude of evidence cataloging the effects of ADHD on social/emotional competence as cited earlier. However, the central cause of these phenomena has yet to be discussed in great detail. The proposed identified cause is the insufficient attachment between primary caregiver and the child with ADHD that is forged in early childhood. This is not to say that all children who have ADHD do not have healthy attachment styles to their primary caregiver; however, it is to suggest that there is greater likelihood of a malformed attachment when the child has ADHD. It should also be noted that criminal behavior may erupt despite a sufficient attachment to a primary caregiver due to the endured trauma experienced by the individual with ADHD. Furthermore, along with ADHD causing a greater likelihood of malformed attachments, we suggest that there is a greater likelihood of criminality and insufficient moral reasoning when ADHD is present.

At its most fundamental core, attachment is a bond profound in nature that bridges one individual to another over space and time (Ainsworth 1973; Bowlby 1969). Therefore, attachment can be, and is, affected by numerous factors. One of the most significant factors is the temperament of the child (Chess and Thomas 1987). Temperament and ADHD are so inextricably and intensely linked (White 1999) that a child with ADHD has a strong tendency toward a difficult temperament style (Preston et al. 2010). The quality of the child's temperament can affect the resulting attachment style in that a child who exhibits a difficult temperament from ADHD may provoke a caring style that is insufficient for a healthy attachment (Finzi-Dottan et al. 2006; Sheffield et al. 2002), especially if the caregiver(s) has a lower threshold for patience possibly from ADHD.

A malformed attachment style is linked to a number of behavioral, emotional, and social functioning issues (Lotze et al. 2010). According to Finzi-Dottan et al. (2006), children with a diagnosis of ADHD as either combined or predominantly hyperactive type more often exhibit anxious attachment, or avoidant attachment, or possibly a

combination of the two than those who do not have ADHD or are predominantly inattentive. Insecure attachment styles, such as anxious or disorganized, have a strong correlation with ADHD (Clarke et al. 2002; Egeland et al. 1993; Goldwyn et al. 2000). Disorganized attachment styles usually result in the most unfavorable of outcomes for the child (Bergin and Bergin 2009); however, any insecure attachment style carries the risk of major difficulty. Those with insecure attachments exhibit a wide range of socially taxing and emotionally unhinged symptoms such as hostility, avoidance, aggressiveness, lability, and anxiety (Sroufe et al. 1983).

It is precisely due to these attachment malformations that the socialization process is negatively affected. It could be argued that the first experience of socialization takes place between primary caregiver and child at birth. Of course, continued interactions lead to attachment styles and form the basis for socialization. The stability of this relationship is paramount as instability leads to behavioral issues throughout the child's development (Lotze et al. 2010). Beyond behavioral issues, an unstable attachment leads to a dearth in the development of emotionally descriptive language (Semrud-Clikeman and Schafer 2000) further damaging socialization practices as emotionally descriptive language is crucial to this process (Eisenberg et al. 1995, 1997). Conduct problems, related to interaction with peers and/or adults, can be traced to the parental responses of the caregiver (Speltz et al. 1990) which illustrates an obvious deficiency in successful socialization as well as its cause. This failure is observed behaviorally but has roots internally due to the inability to make sound moral decisions which provide the vehicle for successful socialization.

Sound moral decisions are the result of successful attachment which leads to socialization. Though decisions linked to moral judgment may also be affected purely by the symptomatology of ADHD such as a lack of impulse control, there is possibly a more robust relationship linked to attachment. As was discussed earlier, the development of empathy is crucial for effective socialization and can be affected by ADHD, so too is the development of empathy crucial to moral development. Guilt is a moral emotion that guides one to behaviors/choices consistent with social standards; it only evolves through understanding how others are impacted by one's actions (Krevans and Gibbs 1996). Therefore, anything that prevents this process risks damaging the moral reasoning capabilities of an individual. This same event may occur in those with other disorders such as autism without the resulting antisocial behaviors, which suggests it is not simply the malformed attachment but the combination of that with a child who may have ADHD. It has been directly noted that those with ADHD lack in socialization skills which can lead to a lacking in

morality development (Nigg et al. 2002). This breakdown in socialization skills may compound and reinforce the deficient moral development as a negative world view of other's may develop in response to rejection or ostracism from the peer group.

It is the early onset of ADHD, pervasive and severe in nature, that produces the highest risk and degree of moral deficiency. Thankfully the vast majority of cases do not proceed this course. Therefore, a child with ADHD is not necessarily beholden to a future of deviance and sociopathy as there are preventative mediating factors. However, the more subtle influences that a less severe presentation can have on moral development still demand cautionary treatment of those with ADHD. It should also be noted that those who present with antisocial personality traits often display as very charming with seemingly strong social skills; these skills, however, are merely superficial without the emotional competency necessary for a genuine representation. So, while the socialization process can be impeded by ADHD, it does not mean that social skills cannot be learned; however, these skills may be more of a tool rather than inculcated and fused with the necessary and appropriate emotion.

As morality finds its basis in emotional/social development, reparative measures are possible, especially through therapeutic interventions found in cognitive-behavioral therapy (CBT). CBT interventions have been shown to increase emotional regulatory behavior in children with ADHD (Hinshaw et al. 1984) which can lead to a more positive and effective socialization processing. Other measures that can aid in repairing an individual's damaged social competency are increased academic prowess, athletic prowess, or other prosocial extracurricular activities (Semrud-Clikeman and Schafer 2000). Motivation to change one's behaviors can also provide a powerful impetus in repairing insufficient social competency (Parker and Asher 1987) be it through fostering an internal desire through motivational interviewing or behavioral rewards systems. Though these are important and can provide intensive support toward developing moral competence through social, emotional, and behavioral competence, measures that can ameliorate the attachment of the child to the caregiver can perhaps be the most significant reparative measures to be taken for ADHD.

Parental sensitivity can assuage damaged attachment styles and can be increased through interventions that focus on the parent's sensitivity (Pauli-Pott et al. 2007; Vaughn and Bost 1999). There are a variety of other factors that can increase a parent's emotional awareness as well as parental successes (see Garner 2006; Rothbaum and Weisz 1994) which play a critical role in the development of a child's morality. Also, we must focus on improving the decision making by a child with ADHD that evaluates the impact

their actions have on others as well as themselves. Reducing decision making patterns formed through mistaken/distorted worldviews, and replacing these views with patterns of thought based on realistic interpretations of the world and themselves is necessary to reach this goal.

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References

- Ainsworth MDS (1973) The development of infant-mother attachment. In: Caldwell B, Ricciuti H (eds) Review of child development research, vol 3. University of Chicago Press, Chicago, pp 1–94
- Barkley RA (1990) Attention deficit hyperactivity disorder: a handbook for diagnosis and treatment. Guilford, New York
- Barkley RA (1998) Attention-deficit hyperactivity disorder: a handbook for diagnosis and treatment, 2nd edn. Guilford, New York
- Berends M (1995) Educational stratification and students' social bonding to school. *Br J Sociol Educ* 16:327–351
- Bergin C, Bergin D (2009) Attachment in the classroom. *Educ Psychol Rev* 21(2):141–170. doi:10.1007/s10648-009-9104-0
- Bowlby J (1969) Attachment, vol I. Basic, New York
- Broderick PC, Blewitt P (2006) The life span: human development for helping professionals, 2nd edn. Prentice Hall, Upper Saddle River
- Carlson CL, Lahey BB, Frame CL, Walker J, Hynd GW (1987) Sociometric status of clinic-referred children with attention deficit disorders and without hyperactivity. *J Abnorm Child Psychol* 15:537–547
- Chess S, Thomas A (1987) Origins and evolution of behavior. Harvard University Press, Cambridge
- Clarke L, Ungerer J, Chahoud K, Johnson S, Stiefel I (2002) Attention deficit hyperactivity disorder is associated with attachment insecurity. *Clin Child Psychol Psychiatry* 7(2):1359–1045
- Dumas M (1998) The risk of social interaction problems among adolescents with ADHD. *Educ Treat Child* 21(4):447
- Egeland B, Pianta R, O'brien M (1993) Maternal intrusiveness in infancy and child maladaptation in the early school years. *Dev Psychopathol* 5:359–370
- Eisenberg N, Fabes RA, Murphy B, Maszk P, Smith M, Karbon M (1995) The role of emotionality and regulation in children's social functioning: a longitudinal study. *Child Dev* 66:1360–1384
- Eisenberg N, Guthrie IK, Fabes RA, Reiser M, Murphy BC et al (1997) The relations of regulation and emotionality to resiliency and competent social functioning in elementary school children. *Child Dev* 68:295–311
- Erhardt D, Hinshaw SP (1994) Initial sociometric impressions of attention-deficit hyperactivity disorder and comparison boys: predictors from social behaviors and from nonbehavioral variables. *J Consult Clin Psychol* 62:833–842
- Farrington DP, Loeber R, Van Kammen W (1990) Long-term criminal outcomes of hyperactivity-impulsivity-attention deficit and conduct problems in childhood. In: Robins LN, Rutter M (eds) Straight and devious pathways from childhood to adulthood. Cambridge University Press, Cambridge, pp 62–81
- Finzi-Dottan R, Manor I, Tyano S (2006) ADHD, temperament, and parental style as predictors of the child's attachment patterns.

- Child Psychiatry Hum Dev 37(2):103–114. doi:[10.1007/s10578-006-0024-7](https://doi.org/10.1007/s10578-006-0024-7)
- Garner P (2006) Prediction of prosocial and emotional competence from maternal behavior in African American preschoolers. *Cult Divers Ethnic Minor Psychol* 12:179–198
- Goldwyn R, Stanley C, Smith V, Green J (2000) The Manchester child attachment story task: relationship with parental AAI, SAT and child behavior. *Attach Hum Dev* 2(1):71–84
- Hinshaw SP, Henker B, Whalen CK (1984) Self-control in hyperactive boys in anger-inducing situations: effects of cognitive-behavioral training and of methylphenidate. *J Abnorm Child Psychol* 12:55–77
- Hirschfield PJ (2008) Preparing for prison? The criminalization of school discipline in the USA. *Theor Criminol* 12:79–101
- Kelly DH (1978) Track position, peer affiliation, and youth crime. *Urban Educ* 13:397–406
- Krevans J, Gibbs J (1996) Parents' use of inductive discipline: relations to children's use of empathy and prosocial behavior. *Child Dev* 67:3263–3277
- Lindgren M, Jensen J, Dalteg A, Meurling AW, Ingvar DJ, Levander S (2002) Dyslexia and AD/HD among Swedish prison inmates. *J Scand Stud Criminol Crime Prev* 3:84–95
- Lotze G, Ravindran N, Myers B (2010) Moral emotions, emotion self-regulation, callous-unemotional traits, and problem behavior in children of incarcerated mothers. *J Child Fam Stud* 19(6):702–713. doi:[10.1007/s10826-010-9358-7](https://doi.org/10.1007/s10826-010-9358-7)
- Mannuzza S, Klein RG, Bessler A, Malloy P, LADPadula M (1998) Adult psychiatric status of hyperactive boys grown up. *Am J Psychiatry* 155:493–498
- Milich R, Dodge KA (1984) Social information processing in child psychiatric populations. *J Abnorm Child Psychol* 12:471–490
- Nigg JT, John OP, Blaskey LG, Huang-Pollock CL, Willcutt EG, Hinshaw SP, Pennington B (2002) Big five dimensions and ADHD symptoms: links between personality traits and clinical symptoms. *J Pers Soc Psychol* 83(2):451–469. doi:[10.1037/0022-3514.83.2.451](https://doi.org/10.1037/0022-3514.83.2.451)
- Parker JG, Asher SR (1987) Peer relations and later personal adjustment: are low-accepted children at risk? *Psychol Bull* 102:357–389
- Pauli-Pott U, Haverkock A, Pott W, Beckmann D (2007) Negative emotionality, attachment quality, and behavior problems in early childhood. *Infant Ment Health J* 28(1):39–53
- Pelham WE, Bender ME (1982) Peer relations in hyperactive children: Descriptions and treatment. In: Gadow KD, Bialer I (eds) *Advances in learning and behavioral disabilities*. CT: JAI, Greenwich, pp 365–436
- Pratt TC, Cullen FT, Blevins KR, Daigle L, Unnever JD (2002) The relationship of attention deficit hyperactivity disorder to crime and delinquency: a meta-analysis. *Int J Police Sci Manag* 4:344–360
- Preston JD, O'Neal JH, Talaga MC (2010) *Handbook of clinical psychopharmacology for therapists*, 6th edn. New Harbinger Publications, Oakland
- Robbins LN (1986) *Deviant children grown up*. Williams & Wilkins, Baltimore
- Rosler M, Retz W, Retz-Junginger P, Hengesch G, Schneider M, Supprian T et al (2004) Prevalence of attention deficit/hyperactivity disorder (ADHD) and comorbid disorders in young male prison inmates. *Eur Arch Psychiatry Clin Neurosci* 254:365–371
- Rothbaum F, Weisz J (1994) Parental caregiving and child externalizing behavior in nonclinical samples: a meta-analysis. *Psychol Bull* 116:55–74
- Saarni C (1999) *The development of emotional competence*. Guilford Press, New York
- Savolainen J, Hurtig T, Ebeling H, Moilanen I, Hughes LA, Taanila A (2010) Attention deficit hyperactive disorder and criminal behavior: the role of adolescent marginalization. *Eur J Criminol* 7:442–459
- Savolainen J, Hughes LA, Mason W, Hurtig TM, Taanila AM, Ebeling H, Kivivuori J (2012) Antisocial propensity, adolescent school outcomes, and the risk of criminal conviction. *J Res Adolesc* 22(1):54–64. doi:[10.1111/j.1532-7795.2011.00754.x](https://doi.org/10.1111/j.1532-7795.2011.00754.x)
- Semrud-Clikeman M, Schafer V (2000) Social and emotional competence in children with ADHD and/or learning disabilities. *J Psychother Indep Pract* 1(4):3
- Sheffield MA, Silk JS, Steinberg L, Sessa FM et al (2002) Temperamental vulnerability and negative parenting as interacting predictors of child adjustment. *J Marriage Fam* 64:461–471
- Speltz ML, Greenberg MT, Deklyen M (1990) Attachment in preschoolers with disruptive behavior: a comparison of clinic-referred and nonproblem children. *Dev Psychopathol* 2:31–46
- Sroufe LA, Fox N, Pancake V (1983) Attachment and dependency in developmental perspective. *Child Dev* 54:1615–1627
- Vaughn BE, Bost K (1999) Attachment and temperament: redundant, independent, or interacting influences on interpersonal adaptation and personality development? In: Cassidy J, Shaver P (eds) *Handbook on attachment: theory, research and clinical applications*. Guilford, New York, pp 198–225
- White JD (1999) Personality, temperament, and ADHD: a review of the literature. *Pers Individ Differ* 27:589–598
- Wilson JQ (1993) *The moral sense*. Free Press, New York
- Young S (2007) Forensic aspects of ADHD. In: Fitzgerald M, Bellgrove M, Gill M (eds) *Handbook of attention deficit hyperactive disorder*. Wiley, Chichester