

Research Review

Biology in Context: Social and Cultural Perspectives on ADHD

Introduction

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In a previous article for this journal, Cooper (2001) described ADHD as a biomedical construct, suggesting that this perspective was a critical 'starting point for an understanding of this topic' (2001, p. 387). In this paper I aim to develop this ground of biomedical evidence and approaches to ADHD to include cultural and social perspectives on this disorder. I address the general problem of description and classification of behaviours into ADHD diagnosis, and I discuss perspectives on socio-cultural factors in ADHD behaviours, diagnosis and treatment approaches.

This paper provides a review of approaches to ADHD that might be called, 'anti' or 'alternative' to the biomedical model. However a major aim is to demonstrate the limitations of a competition between biological and socio-cultural perspectives on ADHD. I hope to show that ADHD has bio-psychosocial elements that cannot be disaggregated, and that the most productive way forward is to recognize the multi-factorial processes inherent in ADHD.

What is ADHD?: in search of disorder

According to the American psychiatric profession's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), (ADHD) is a brain-based disorder classified under 'disorders most often occurring in childhood.' The inherent ambiguity of ADHD symptoms makes estimating the actual percentage of children in the population with ADHD a difficult and controversial enterprise. Impulsiveness, inattention, and hyperactivity make up the core triad of symptomatic behaviours. Cooper notes that prevalence rates in the US and the UK are similar, but in fact estimates on the prevalence of ADHD in American children range widely. One prominent source suggests that 6 per cent of boys and 1.5 per cent of girls have ADHD (Swanson and others, 1993), while another suggests that 10 per cent of all children meet diagnostic criteria (Biederman, 1996). In an acknowledgement that a child's behaviour is itself ambiguous and subjective territory, the writers of the DSM-IV note that the

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intensity and pervasiveness of these common childhood behaviours are key components in the translation of behaviours into symptoms. Symptoms must be present in two or more locations (such as home and school); and they must have been present to a disruptive degree for six months or longer.

Arguments for the legitimacy of the ADHD diagnosis frequently place ADHD within a clinical history of a distinct behavioural syndrome (Cooper, 2001; Barkley, 1997; Palmer and Finger, 2001). However the history of ADHD is characterised mainly by the pursuit of clinical definition. Some researchers have claimed that the British physician George Still (1902a, 1902b, 1902c) first described ADHD in a series of lectures in *The Lancet* (Barkley, 1997). It is now generally agreed that Still's young patients, while presenting with some hyperactive and inattentive behaviours, meet more of the current diagnostic criteria for oppositional-defiant disorder or conduct disorder (Palmer and Finger, 2001). ADHD has also been linked to a broad diagnosis called minimal brain dysfunction (MBD), popular in the 1940s and '50s (Barkley, 1997). MBD described children with symptoms of inattention and hyperactivity, mental retardation, dyslexia, brain damage, delinquency, moodiness, and learning disabilities (I. Singh, under review, 2002). In the 1930s, Charles Bradley, director of the Emma Pendleton Bradley Home in Rhode Island, demonstrated the effectiveness of the stimulant benzedrine in improving problematic behaviours in children with MBD (Bradley, 1937). In 1957, Maurice Lauffer, second director of the Bradley Home, suggested a new name for MBD, focusing on an aspect of this broad diagnosis that responded very well to medication, 'hyperkinetic disorder.' Lauffer claimed that 'a favorable response to amphetamine is supportive evidence for a diagnosis of the hyperkinetic syndrome' (Lauffer and Denhoff, 1957, p. 473).

Hyperactivity continued to define disorder until DSM-III (1980) coined a new term, 'attention deficit disorder' (ADD). This label effectively shifted diagnostic emphasis from hyperactivity to attention as the core problem of disorder. Now children with or without hyperactivity could be diagnosed with ADD. Several years later, DSM-III-R (1987) reflected this shift in thinking about the core of disorder when ADD was changed to the present-day AD/HD—attention deficit disorder with or without hyperactivity. These are not merely changes in nomenclature; as a diagnostic category ADHD has widened significantly over the years. Baumgaertel and others (1995) have shown that changes in diagnostic criteria for ADHD between the 1987 version of DSM-III-R to the current 1994 version of DSM-IV support a 57 per cent increase in children meeting ADHD criteria.

In the past several years, one of the most prominent researchers of ADHD, Russell Barkley (1997) has proposed that the current focus on attention as the core symptom of disorder is misguided. Instead, he calls ADHD a problem of 'self-control' and argues that when we shift our thinking toward self-control, the true biological nature of the disorder is revealed. Observers of the search for clinical definition of ADHD speculate that Barkley's theories may influence yet another shift in diagnostic nomenclature to emphasise self-control over attention and hyperactivity (Goldstein and others, 1998).

Barkley's theories have indeed had a great deal of influence within the community of biologically oriented researchers of ADHD. However I cannot agree with Cooper's claim that, '[T]here is increasing consensus, amongst clinicians, about the nature of AD/HD . . . ' (2001, p. 392). Indeed, responding to a national concern over rising rates of ADHD, the National Institutes of Health (NIH) called for a Consensus Conference on ADHD in 1998.

The results of this Conference suggest that the definitional problems of clinical classification and diagnosis may have existential roots. After several days of papers from many prominent ADHD researchers, the consensus committee recommended that the primary objective for future research be to 'better define ADHD' (CCD-National Institutes of Health, Nov. 16–18, 1998).

What is ADHD?: the search for causes

In recommending a path for future research on ADHD, the NIH consensus committee focused on

(1) studies of cognitive development and cognitive processing in ADHD and (2) brain imaging studies before the initiation of medication and following the individual through young adulthood and middle age (CCD-National Institutes of Health, Nov. 16–18, 1998).

In his review of research on the causes of ADHD, Cooper notes that the experimental search for causes has also been focused in the areas of cognition and neurobiology. These overlapping areas of interest indicate the extent to which *definition* of ADHD is linked to *cause(s)* of ADHD. The purely brain-based searches for both definition and cause(s) have ensured the hegemony of a biomedical model of ADHD, at least in the US.

A strong critique of this model of ADHD emerges out of 1970s anti-psychiatry and is based on the work of Thomas Szasz (1974), who suggested that mental illness is a metaphor (because there is no demonstrable biological pathology) for culturally disapproved thoughts, feelings and behaviours. Following Szasz's work, Shrag and Divoky (1975) argue that ADHD (then called 'hyperactivity') is a 'myth' which allows control of the individual in order to create a 'hygienic state.' The posited link between state mechanisms of social control, deviant behaviour and hyperactivity is developed further by Conrad and Schneider (1980/1992), who argue that hyperactivity disorder 'modifies, regulates and eliminates' deviant behaviour with a diagnostic label and a 'punishment' in the form of drug treatment.

While the biomedical approach may be criticised for sacrificing the individual and social context to biology and genes, the anti-psychiatry approach may be criticised for sacrificing the individual to radical social and political agendas. Much of the anti-psychiatry critique is too radically conceived to impact scientific work on causes of ADHD, and there is little evidence of it being taken into account by ADHD researchers in the US. In one instance, Whalen and Hencker (1980), two prominent psychologists with a longstanding commitment to ADHD research, noted in the introduction to their edited book, *Hyperactive Children*, that scientists do not really understand what is wrong with hyperactive children, and that it is unclear whether hyperactivity syndrome actually exists. They hold out the possibility that the diagnosis may be capturing several related syndromes, or none (1980, p. 4).

More recently psychologists interested in boys' development have proposed a more nuanced critique of ADHD which posits social and cultural causes of ADHD-type symptoms in young boys. Most of these researchers believe in a clinical reality to the ADHD diagnosis, although they are concerned about over-diagnosis. Their research tends

to evaluate the widespread use of the ADHD diagnosis in relation to social needs and expectations. Kindlon and Thompson (1999) argue that ADHD diagnosis can medicalise 'normal' boys who are failing to attain the markers of high achievement in a competitive social and academic world. Pollack (1998) suggests that ADHD diagnosis may cover up an oppressive culture of masculinity in which boys are required to develop traditionally male behaviours in a harsh competitive environment. Boys are thought to react to this oppressive system with externalising behaviours and depression, but these responses and their true cause are said to be veiled through ADHD diagnosis. One of the major differences in the critique of the anti-psychiatry movement and this more recent critique is the emphasis among the latter group on the implications of medicalisation for the emotional and psychological well-being of young boys.

Drug treatment of ADHD: cultural factors

Cooper notes the continuing controversy over drug treatment of ADHD, and differences in the approximate percentage of all school age children prescribed medication for ADHD in the US and the UK (2–2.5 per cent in the US and less than 1 per cent in the UK). These differences tell an important story about the extent to which ADHD diagnosis and approaches to treatment are culture-bound phenomena. In 1999 the United Nations International Narcotics Control Board reported that Americans ingested about 85 per cent of the world's methylphenidate. While world-wide use of methylphenidate is growing, US consumption is at record levels. In the past decade US consumption of methylphenidate increased by approximately 600 per cent whereas consumption averaged across all other countries increased by approximately 300 per cent (United Nations Report, 1999).

While Cooper rightly argues for the importance of a multimodal approach to ADHD treatment, the problem is that in the US, and increasingly in other countries, methylphenidate is being used without supporting interventions (Diller, 1998). In addition, there is widespread concern about the adequacy of ADHD diagnoses, as well as over-diagnosis and over-prescription of methylphenidate (United Nations Report, 1995, 1999). These concerns and the significant cultural differences in methylphenidate prescriptions and usage urgently require careful evaluation and assessment. However clinical assessments of methylphenidate treatment are almost always based on the biomedical model which focuses on internal individual effects and outcomes. Such assessment has shown, as Cooper notes, that psychostimulants are relatively safe and effective for ADHD treatment. Yet there has been little effort to acknowledge and evaluate the broader social and cultural context of psychostimulant usage as part of the clinical assessment of treatment.

Despite this, there is some clinical research evidence that drug treatment efficacy is socially and culturally contingent. It is largely acknowledged in the ADHD research literature that medication effects are not seen in 'free play' situations; rather they are seen in structured settings such as the classroom (Barkley, 1990). This is a simple and powerful illustration of the extent to which medication effects interact with the needs and expectations of a particular social or cultural context.

Recent evidence suggests that the clinic setting in which psychostimulant treatment for ADHD is offered may affect treatment efficacy. In the NIH Multimodal Treatment

Assessment (MTA) study (MTA Cooperative Group, 1999), 'state-of-the art' treatment approaches (MTA) that utilised multidisciplinary care teams and intensive follow-up and monitoring of patients were compared with treatments usually delivered by community providers such as general practitioners (GPs) (community care). Where medication was prescribed, 'state-of-the-art' clinics delivered superior results as compared to community care clinics. Analyses by Greenhill and others (1999) attribute these differences to careful monitoring and titration of dose levels in the MTA group; and to greater adherence to the medication regimen among patients in this group. The authors also speculate that a networked support structure involving physicians, teachers and parents contributed to the greater success of medication treatment in the MTA group. The findings from the NIH MTA study suggest that successful drug treatment for ADHD does not consist simply of a one-to-one relationship between drug and brain disorder. Clinic culture and its philosophy of treatment can influence the efficacy of drug treatment.

The work of stimulant medication: critical assessments

Critical analysis of social and cultural factors in drug treatment of ADHD is a central aim of research that queries the biomedical model of ADHD and its emphasis on drug treatment. At the extreme end of such critique, the anti-psychiatry perspective tends to reject the argument that drug treatment targets biologically based disorder. Following in the tradition of Szasz (1974), Breggin (1998) argues that ADHD does not exist, and that Ritalin is a way to keep inadequate schools and incompetent parents in place, while accumulating power and wealth for medical institutions and pharmaceutical companies. A related perspective is espoused by DeGrandpre (1999) who sees a 'rapid-fire [American] culture' as the motivating force behind the need for stimulant drugs among children. According to DeGrandpre ADHD is not a medical disorder, rather it is best described as 'sensory addiction' (1999, p. 215). DeGrandpre argues that psychostimulants provide children with the speed they both need and desire within a fast, competitive, high-sensory culture.

A major problem with research in this vein is the lack of empirical data to support radical assertions that can seem designed for media exploitation. Both Breggin and DeGrandpre synthesise pieces of disparate research and data and cite anecdotal reports from informants to support their claims. This work is important as cultural and critical commentary, but the authors' claims are often suspect and speculative.

The research in boys' psychology takes a somewhat similar perspective on the use of medication to meet social and cultural needs, focusing on the oppressive dictates of a competitive, hurried culture. In *Raising Cain*, Kindlon and Thompson (1999) argue that Ritalin is a way of creating 'better boys.' They describe a 'better boy' as one who 'makes As instead of Bs, a boy who can focus on the seriousness of building his future rather than the frivolous pursuits of the afternoon' (1999, p. 44). Pollack (1998) suggests that medication brings a boy in line with the expectations of a 'boy code' for appropriately masculine behaviour, which includes achievement and success in a competitive environment. These authors view the gender bias in ADHD diagnoses (approximately four boys : one girl) as a sign that diagnosis and medication may be medicalising boys' normal behaviours.

The concept of 'better boys' echoes Peter Kramer's (1993) influential analysis of Prozac, in which he argues that Prozac can be seen as 'cosmetic psychopharmacology,' or the ability

in a consumer-driven society to use psychotropic medication for 'chemical enhancement' (1993, p. 273). The pediatrician Lawrence Diller (1998) has suggested that Ritalin too is used for cosmetic purposes ('cosmetic Ritalin') in a world that expects all children to perform to spectacular heights. Philosophers debating the moral issues surrounding enhancement of human traits see Ritalin as a technology that sits on the borderline between treatment of disorder and enhancement of the person (Elliott, 1998; Parens, 1998). The desire to improve children's chances for success is not new, but drugs present a new means to reach these desired ends, and these means have potentially serious implications for notions of children's free will and personal responsibility (Cole-Turner, 1998). Little (1998) has suggested that performance-enhancing drugs such as Ritalin raise ethical questions about the role of physicians who tacitly reinforce oppressive cultural norms with drug prescriptions that normalise performance, behaviour and appearance. By this argument, physicians prescribing Ritalin are complicit with a culture of masculinity that includes an oppressive 'code' of boys' normal development.

Philosophers have shown that Ritalin use raises important moral and ethical questions about the potential role of psychopharmacology in shaping the individual. Social scientists have yet to properly take up the challenge of pursuing empirical research that investigates the potential implications of Ritalin use in such areas as children's self-concept, personal autonomy, and personal agency. In their arguments philosophers tend to extrapolate from adult users of psychotropic drugs such as Prozac to children taking Ritalin. I agree fully with Cooper's conclusion that there is a real need to include ADHD children themselves in empirical research around these questions.

Conclusion

I hope I have in this brief paper demonstrated the need for the inclusion of social and cultural perspectives on ADHD and psychostimulant treatment in clinical research. Much of the current research is based on an individualistic biomedical model; however sociological accounts of ADHD and Ritalin tend to discount, minimise or marginalise biological and genetic factors. These polarised research perspectives must be contrasted with most practitioners' understanding of ADHD, which, perhaps because it is more pragmatically orientated, tends toward a more holistic picture.

What might an integrated research agenda look like? It is impossible to fully outline a research approach in this brief space, but I hope to make just a few points. It may be that investigation of some of the 'mysteries' of ADHD could be fruitful. Three mysteries I find particularly interesting are: 1. chronicity of ADHD; 2. children with ADHD tend to be better behaved for their fathers than for their mothers (Tallmadge and Barkley, 1983); 3. gender bias in ADHD diagnoses and methylphenidate treatment.

Each of these mysteries presents an opportunity for integration of biomedical and socio-cultural approaches. I have room to elaborate only on the first suggestion. As I see it, the challenge of this research would be to build a longitudinal model of ADHD incorporating physiological, genetic, social and cultural components. One might follow a group of ADHD children to see who 'grew out of' ADHD and who did not. A comparison group might include children with other behaviour difficulties. Comparisons among the groups might employ the following research methods: ethnographic home and school

observations and interviews to understand the influence of the family and educational system; standardised cognitive and emotional tasks and measures; brain scans and/or other physiological measures to view possible individual changes over time and among groups. This is by no means an exhaustive list. Contributors to this research could include biologically and socio-culturally oriented researchers in social and neuropsychology, medicine and sociology or anthropology.

The kind of research I am proposing is as big and messy as the phrase 'bio-psycho-social'; it is possibly based on an ideal of inter-disciplinary research that is difficult to create and even more difficult to fund. I would still argue, however, that these kinds of research projects are essential to a full understanding of ADHD and Ritalin.

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