Attention-Deficit Hyperactivity Disorder

Psychosocial Myth or Frightening Reality?

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Overview and Modern Perspective

"Attention-Deficit Hyperactivity Disorder" (ADHD) is an accepted psychiatric diagnosis that was first "medically described" in 1902 by George Frederick Still (Brown &

ScientificAmerican.com 1999; Rafalovich *Psychodynamic* 2001). Since then, and before the modern term "ADHD" was coined, the disorder had been referred to by many different names: *Encephalitis Lethargica*, Minimal Brain Damage, Minimal Cerebral Palsy, Mild Retardation, Minimal Brain Dysfunction, Atypical Ego Development, Hyperkinesis ("hyperactivity"), and Attention Deficit Disorder (ADD) (Rafalovich *Conceptual* 2001, p. 94). Evidently, early studies of these generically understood "unconventional childhood behavior[s]" did not yield much insight into the underlying disorder, and the affected individuals were often passed off as mentally challenged (Rafalovich *Conceptual* 2001, p. 94).

It was not until 1980 that the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders*, third edition (DSM-III), first acknowledged ADHD as a valid psychiatric disorder under a modern classification (Mehl-Madrona 2002) – yet since then, it has again become highly controversial. The fundamental causes of ADHD, how it should be diagnosed and treated, and its overall legitimacy are a contentious debate.

I have gathered data from various journals, books and a few on-line websites, and have evaluated the arguments from all sides of this controversy. I plan on discussing the facts and main issues in the ADHD debate, and examining the popular root causes of the disorder, including the social constructionist approach. With the issues at hand, I believe that there is biological and chemical evidence for the disorder we call ADHD, yet public complacency, the drug industry's compulsion for profits, the school's desire for order, a parent's need for a scapegoat and general societal norms have led to the increasing

acceptance and diagnosis of ADHD in westernized, Caucasian cultures, specifically in the United States.

Statistics

ADHD has typically been classified as a childhood behavioral disorder of developmentally inappropriate impulsivity, hyperactivity or inattention primarily affecting school-age children and decreasing in symptomatology in 20-40% of cases over the course of development (Jensen 2000). Clure et al. (1999) suggests that the observed reduction of symptoms in adolescence may have more to do with "maturity…than the remission of the disorder" (p. 441); however, today we know that as many as 30-50% of children with ADHD continue to have symptoms into adolescence and adulthood, and that not every "ADHDer" will be hyperactive or inattentive (Clure et al. 1999; Brown & ScientificAmerican.com 2003).

According to the APA (1994) *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV), in the United States 3-5% of school age children have ADHD, or about four to six million youngsters, and about 2-4% of adults. However, about four to nine times as many boys as girls are diagnosed with ADHD, "depending on the setting (i.e. general population or clinics)" (APA 1994, p. 92), and incidence rates in the United States are 5-10 times greater than in any other country (Dopheide 2001). The onset of symptoms occurs in childhood, and for an official diagnosis of ADHD the " hyperactive-impulsive or inattentive symptoms...[must be] present before age 7 years" (APA 1994, p. 78). Despite these ostensibly strict requirements, the rate of diagnosis for this country's youngsters has been rising steadily in the past two decades, along with the

rate of prescribing stimulants. In fact, the Drug Enforcement Agency has been consistently increasing the "yearly allowable methylphenidate [Ritalin] production quotas" (Jensen et al. 1999), and Diller (1998) has observed a 700% increase in prescribed stimulant medications since 1990. While treatments for ADHD are theoretically either pharmaceutical or psychological in nature, some believe there is a "relative absence of psychotherapy for the ADHD-diagnosed," and too much dependence on stimulant medication (Walker 1998).

Symptoms and Diagnosis

Consider the following excerpt from Daniel Amen's book, Healing ADD: The Breakthrough Program That Allows You to See and Heal the 6 Types of ADD (2001):

> Billy, age 9, had trouble in school since starting kindergarten. The teachers seemed to call his parents at least once a month to complain about Billy's behavior. He frequently interrupted others, they said, and he had problems with distractibility, a short attention span, and hyperactivity, and he couldn't stay in his seat. Again and again Billy was told that he was impulsive and did things without thinking...Additionally, Billy's work was sloppy, he often forgot or lost assignments, and his desk was an absolute disorganized mess!
>
> His parents knew most of these problems firsthand. Billy was a difficult child to parent...Work that typically took their other kids thirty minutes to finish took Billy three or four hours...He was often sad and frustrated, and had a tendency to blame others for his problems.
>
> (p. 3-4)

Billy's case is one of "classic" ADHD. In terms of the comprehensive disorder, ADHD is a "heterogeneous condition" for which there is considerable variability in core symptoms of diagnosed children (Amen 2001; Newcorn et al. 2001, p. 137). As seen in

Billy's vignette, many of the common behavioral indicators include short attention spans, impulsivity, difficulty following rules, difficulty in school, listening or completing homework assignments, poor delay of gratification, losing things, being fidgety, being socially inappropriate and easily distracted, interrupting others and blurting out (APA 1994). This generic list of typical childlike behavior is one reason for the controversial nature of the disorder.

However, the story becomes more complicated: there is not one standard type of ADHD, rather there are several. Amen (2001) claims in his book that there are six distinct types of ADHD, while the DSM-IV, a legitimate diagnostic tool, claims there are only four main types of the disorder. In fact, there are several other diagnostic tools such as the International Statistical Classification of Diseases and Related Health Problems (ICD-10), 10th edition (World Health Organization 1992), which is used primarily in Europe, Asia and Africa (Mehl-Madrona 2002), The Connors Teacher's Rating Scale (CTRS) (Gumpel et al. 1998), the Conners Abbreviated Symptoms Questionnaire (ASQ) or the "Hyperactivity Index" (Erford et al. 1998), and the Children's Global Assessment Scale (CGSA) (Setterberg et al. 1992). This argument will focus on the DSM-IV criteria because it is the primary diagnostic tool used in North and South America.

According to the DSM-IV, the four types of Attention-Deficit Hyperactivity Disorder are: ADHD Predominantly Inattentive Type, ADHD Predominantly Hyperactive-Impulsive Type, ADHD Combined Type (both inattentive and hyperactive-impulsive), and ADHD Not Otherwise Specified, for which there may be some symptoms of inattention or impulsivity that do not fully meet the criteria for ADHD, possibly due to partial remission (APA 1994). For each diagnosis, a psychiatrist, pediatrician, general

practitioner or (other) rater must positively identify in the child a set of symptoms from the DSM-IV Diagnostic Criteria behavioral checklist (see Appendix A), and designate one of the four types of ADHD accordingly. The symptoms must be present in various social settings for a period of six months (minimum) and have an onset by or before age seven. For example, in conditions where criteria from the "inattentive" list are met but not from the "hyperactive-impulsive" list, the diagnosis is the predominantly inattentive type; if criteria from both lists are met, the diagnosis is the combined type. Since each diagnosis represents a unique but related disorder, with potentially unique treatment options, it is imperative that there is a universal, reliable method for ADHD evaluations.

In addition, not only can it be difficult to distinguish between "age-appropriate behaviors in active children" (APA 1994) and true symptoms of ADHD, Newcorn et al. (2001) speculates that other disorders may masquerade as ADHD. Conditions such as anxiety disorder (ANX), oppositional defiant disorder or conduct disorder (ODD/CD), mental retardation, autism, Tourette's syndrome, depression, low IQ and even brilliance all manifest symptoms that mimic ADHD (APA 1994; Mehl-Madrona 2002). On the other hand, such disorders also appear as *comorbid*, yet overlooked, psychiatric disorders in as many as 50% of those with diagnosed ADHD (Mehl-Madrona 2002). For example, a study by Newcorn et al. (2001) noted that children with ADHD + ODD/CD and children with ADHD + ODD/CD + ANX were overall *more* impulsive than children with ADHD alone. In addition, there are marked behavioral differences between boys and girls. Generally, girls are less overall symptomatic than boys, expressing fewer externalizing behaviors than boys do (Abikoff et al. 2002); girls with ADHD + ANX prove to be less impulsive than girls with ADHD only (Newcorn et al. 2001). These observations and

distinctions become important when the time comes for a clinician to prescribe a treatment plan.

Furthermore, Newcorn et al. (2001) notes that there may be "rater biases or halo effects" that cause psychiatrists, pediatricians and general practitioners[1] to over- or otherwise inappropriately diagnose ADHD (p. 137). For an official diagnosis, the rater must identify in the child six symptoms present out of a set of nine symptoms listed, *in his opinion*. Rall & The Center for Unhindered Living (2001) recognize how this diagnosis procedure is extremely subjective: "If you are diagnosed by one person, you have it, and if you are diagnosed by someone else, you don't." Jensen et al. (1999) critiques our "exclusive reliance on [these] behavior checklists" (p. 798) and questions the validity of such diagnostic tools. However, there are no objective medical screening tests to replace this current system, to date.

Thus, the accurate diagnosis of ADHD is complicated by several factors: there are many different *types* of ADHD, there are many other disorders that imitate ADHD, and there are some comorbid disorders that may be simultaneously expressed (which again call for unique treatment plans). This issue characterizes one of the primary challenges and concerns of the ADHD community today, and the debate at hand. Consequently, there is an increasing drive in the medical/psychiatric community towards "the selection of diagnostic criteria that would maximize the internal consistency of lists of symptoms, the accurate identification of functionally impaired youths, and the reliability of the diagnosis," (Applegate et al. 1997) so that we risk neither over- nor under-identification of our children as ADHD.

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[1] A study by Miller et al. (2001) in British Columbia found that general practitioners were responsible for writing 56% of all prescriptions for ADHD, while pediatricians and psychiatrists wrote 23% and 21%, respectively.

Treatment

After a diagnosis has been made, the child will usually be prescribed a treatment plan. Pharmacoptherapy, or more specifically stimulant medications, is the most standard treatment for ADHD today. Synthesized and marketed by CibaGeneva Pharmaceuticals, now bought by Novartis AG, methylphenidate, or Ritalin, is the most frequently prescribed stimulant drug for ADHD (Rafalovich *Psychodynamic* 1998; Rodie 2001). Claiming Ritalin is an "integral part of a total treatment program for a stabilizing effect in ADHD/ADD," Novartis (2003) manufactures three different kinds of Ritalin: *Ritalin® Hydrochloride* (methylphenidate hydrochloride tablets), *Ritalin LA®* (methylphenidate hydrochloride extended-release capsules), and *Ritalin SR®* (methylphenidate hydrochloride sustained-release tablets). However, other stimulant drugs such as Cylert, Adderall, Concerta, Metadata, Attenade and Dexedrine essentially work the same way as Ritalin[2], and are becoming increasingly popular due to fewer side effects and longer sustained delivery in some brands (Weathers On-line).

The rate of all such medication treatment for our children is steadily increasing. For elementary school students, the rate has increased from 1.07% in 1971 to 5.96% in 1987; for middle school students, from 0.59% in 1975 to 2.98% in 1993; and for high school students, from 0.22% in 1983 to 0.70% in 1993 (Jensen et al. 1999). The reason behind these increases is unclear, and the amount of prescribed methylphenidate is much

[2] It may seem ironic that Ritalin, a stimulant drug, works effectively to "calm down" and bring hyperactive or otherwise inattentive children under control. However, in children with ADHD, there appears to be less neural activity in the prefrontal cortex, the area of the brain responsible signaling the rest of the brain to filter and focus attention appropriately, and Ritalin is able to stimulate neurotransmitter secretion and subsequent activity in the deficient areas of the brain, ultimately bringing about a balance (Brown & ScientificAmerican.com 2003).

higher in the United States than in any other country (Hancock 1996). Safer et al. (1996) ascribes this increase to an escalating number of girls and adolescents with ADHD diagnoses, longer duration treatment plans and the overall "growing public acceptance of psychostimulant prescriptions" (Jensen et al. 1999, p. 797). Not only is this growing public acceptance worrisome, we do not know the long term effects of stimulant drugs because the first cases of Ritalin children are just now entering their twenties (Barkley et al. 2003).

Psychotherapy or counseling for behavior modification is another treatment option, more frequently prescribed by pediatricians (94%) than family physicians (71%) or general practitioners (61%) (Jensen et al. 1999). Such non-pharmacological interventions are either *operant* or *cognitive-behavioral* procedures[3] (Dopheide 2001). Operant treatment programs include contingency management in the home or at school (or both), where adults provide reward and punishment systems, identify specific behaviors and provide positive feedback to the child (with points, stickers, etc.) when they are met. Cognitive-behavioral models include more self-initiating intervention paradigms. For example, a child will be taught anger management and social skills, along with self-evaluation, self-monitoring and self-reinforcement, in order for the child to identify and modify his/her behavioral problems him/herself (Dopheide 2001). While such counseling seems necessary and desirable, the Multimodal Treatment Study of Children With Attentional-Deficit/Hyperactivity Disorder (MTA 1999) including 579 children with ADHD combined-type has shown that methylphenidate (Ritalin) treatment, with or without concurrent counseling, was more effective than the behavioral therapy alone. However,

[3] Some other less well studied and less advocated behavioral methods include biofeedback, audiovideo stimulation, and dietary changes or nutritional supplements (Dopheide 2001).

counseling for parents and teachers still proved valuable and effective, and is critical for the overall child treatment plan.

In addition, there are other issues a clinician should consider before writing up a treatment plan, including specific ADHD type and comorbidity[4], and sex of the child. For example, in the cases where ADHD impulsivity is low, medication may not be the most effective therapy. In the Newcorn et al. study (2001), the children with ADHD and comorbid ANX disorder who were more *inattentive* than impulsive (the anxiety seemingly mitigates the impulsivity), reported comparable improvement to psychotherapy (alone) and stimulant medication (alone). Jensen et al. (2001) expanded on this to show that children with ADHD-only or ADHD with comorbid ODD/CD responded best to stimulant medication (with or without supplemental behavioral therapy), while children with ADHD and comorbid ANX *and* ODD/CD responded best to combined therapy (medication and behavior modification). Furthermore, girls with ADHD are overall less impulsive than boys with ADHD, and girls with ADHD and comorbid ANX are less impulsive than girls with ADHD-only (Newcorn et al. 2001). Again these findings suggest that physicians, pediatricians and other practitioners should take into account gender, relative impulsivity, as well as comorbidity and/or specificity of ADHD type (predominantly inattentive, predominantly hyperactive-impulsive, combined type), in prescribing treatment plans, individualized for each unique case of ADHD.

[4] Harrison & Sofronoff (2002) note that a substantial portion of children (20-30%) with ADHD develop comorbid oppositional defiant disorder/conduct disorder (ODD/CD).

Etiology: Multiple Theories

While ADHD has been extensively researched, the origin of this disorder still eludes us. Does ADHD qualify as a "nature" or a "nurture" disorder, or some combination of factors?

Most researchers vehemently argue that ADHD is a genetic disorder that runs in families, supporting the "nature" argument. Dopheide (2001) notes that there exists a 55% to 90% concordance rate for ADHD for monozygotic twins, yet the disorder likely involves the interaction of multiple genes. Other genetic arguments claim that there is a chemical imbalance in the brain – a dopamine (DA) deficiency. Studies of ADHD individuals suggest that there is an overexpression of the dopamine transporter-1 (DAT1), which is involved in the reuptake of DA into the presynaptic nerve terminal, and a defect in the DA receptor (DRD4) on the postsynaptic cell. The excessive reuptake reduces the amount of DA available in the synapse to the deficient DRD4 receptor, which is usually involved in modulating attention and controlling one's response to the environment (Dopheide 2001; Maher et al. 2002). Other neurological evidence indicates that there is decreased activity in the prefrontal cortex (the executive command/control center) of the brain (Brown & ScientificAmerican.com 2003), and that the "prefrontal cortex, caudate nucleus and globus pallidus are typically smaller [in ADHD individuals], which suggests lack of connectivity of key brain regions that modulate attention…processing, and impulsivity" (Dopheide 2001).

The proponents for the "nurture" argument claim that an imbalanced diet, food allergies, antibiotic use, low levels of zinc, calcium, magnesium and/or B6 and omega-3 fatty acids could trigger ADHD. Some attribute poor parenting. However, all these

theories have been disregarded as *primary* causes of the disorder. (Dopheide 2001; Rall & The Center for Unhindered Living 2001).

A study at the University of Louisville School of Medicine (O'Brien et al. 2003) indicates that a primary culprit for hyperactive children might be sleep deprivation. When such hyperactive children received more sleep per night, they had fewer observed symptoms the following day. This suggests that ADHD is not purely genetic; rather, complicated (perhaps *secondary*) environmental factors play a role in the development of the disorder.

Psychosocial Theory

The most controversial argument is that ADHD is a psychosocial phenomenon brought about by the media, parents and teachers, not by "nature" or "nurture" alone. According to Foucault (1965), the marginal groups in society define "normalcy." ADHD symptomatology simply represents a set of social behaviors in children – on the one hand, merely "age appropriate behaviors in active children" (APA 1994). Our society has defined those set of behaviors which lie in the middle of this bell curve as *normal*, and consequently those at the edges of the spectrum as abnormal and *sick*. Tranøy (2001) explains how the "border between 'sick' and normal is a fluid one," yet our society quickly isolates the abnormal from the average, labels and subsequently stigmatizes them as different, as sick. In western society, the media, teachers and parents are eager to identify children with "extreme manifestation of…temperamental characteristics," on the far right of the bell curve, as ADHD (Jensen 2000).

There are several arguments supporting the hypothesis that ADHD is a social construct, rather than a psychiatric or neurological disorder.

First, ADHD incidence rates in the United States are 5-10 times greater than in any other country. A few other westernized countries, such as Australia and some European countries like Great Britain, the Netherlands and Norway, are experiencing dramatic increases in ADHD, as well (Rodie 2001; Tranøy 2001); other than that, the disorder is virtually non-existent in the rest of the world. Even in France, there are almost no ADHD diagnoses because only hospitals will prescribe stimulants to children – a general or family practitioner does not have this authority (Rodie 2001). The laws and structure of the society does not support the disorder, and hence it is not a condition. In the United States, the variance of ADHD in different parts of the country "shows itself to be proportional to the presence of, and influence by, behavior diagnosticians, testers and therapists in the schools" (Tranøy 2001). Furthermore, prescription rates of Ritalin in the US are at times 18-20% higher for white boys than for boys of other ethnicities (Dopheide 2001). The observed inconsistency of ADHD diagnoses within the United States and around the world is strong evidence for the social influence on the disorder – that our specific Caucasian, western society lends to the legitimacy of ADHD *here*.

Moreover, the changing nature of our society influences the growing rates of ADHD. In 1940, our society was primarily concerned with delinquents who talked out of turn, chewed gum, cut in line and littered (Strydom & Plessis 2001). During this time, in and around World War II, the American Psychiatric Association and Brigadier General William Menninger developed the *Diagnostic and Statistical Manuals* to "codify [such] 'deviant' behavior." Since then, the number of listed DSM "disorders" and "diseases" has

grown from 112 (1952) to 224 (1980) and 374 (1994 – the most recent edition) (Rodie 2001). The diagnosis of ADHD, specifically, used to require meeting 8 of 14 symptoms listed in the DSM-III edition. By 1994 (DSM-IV), the diagnosis was rewritten and subdivided, so that children need only meet 6 of 9 symptoms listed, simplifying the requirements for an official diagnosis. Perhaps this trend can be attributed to the growing number of ADHD cases from 1970 to today: 150,000 in 1970, to one million in 1990, to six million in 2001 (Rodie 2001). The observed increase in ADHD, occurring relatively recently even though it was officially identified as early as 1902, makes the case for the societal influence on the appearance and prevalence of the disorder today.

Furthermore, since the mid-twentieth century, our society has not only become accommodating to the identification of new disorders (i.e. in the DSM literature), it has begun to expect answers and cures to medical and psychiatric disabilities. With continuous research in every imaginable field, we are developing medication for every imaginable problem, and curiously, we are becoming fully amenable to medicating the masses. As cases of ADHD have been growing, the public has become increasingly aware of the disorder and increasingly accepting of medicating our young children with Ritalin (Jensen 1999). In addition, parents and teachers are looking for reasons why their children are misbehaving or acting abnormally. They want answers and control, even if it is only a "spectacle of control" (Lowe 2002). When a difficult child is labeled "sick," or different, the parents and teachers are no longer to blame (Tranøy 2001). "Parents can temporarily relieve themselves from guilt (and therefore responsibility) by believing in a brain disorder" (Rodie 2001); as they lose accountability, they regain control.

It is understandable that teachers want control over their classrooms, yet Tranøy (2001) argues that our schools are ultimately at fault: "It is not necessarily that...the pupils...create the problems, but rather the school's teaching and framework that create difficulties for the pupils." Especially when our class sizes are so large, and the class day so rigidly programmed, how can we expect to accommodate all children, with all abilities and from both ends of the spectrum, in one room, one structured environment?

Classrooms aside, our "schools contribute to the epidemic size of ADHD" in other ways, as well (Rodie 2001). There have been several lawsuits where principals have put excessive pressure on parents to make their children take Ritalin. In one such case, the father would have to forfeit parental rights if he disagreed with the court's final decision on whether or not the child should be taking Ritalin (Rodie 2001).

This is not the only ADHD-related lawsuit. In October 2000, Richard Scruggs filed a class action suit against Novartis (manufacturer of Ritalin) claiming they were conspiring with the American Psychiatric Association and the nonprofit support group Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD) for "improperly broaden[ing] the diagnostic criteria for...(AD/HD) thereby increasing Ritalin sales" (Rodie 2001; *Last of Ritalin Lawsuits Dropped* 2002). Scruggs' was one of five similar suits filed in 2000, yet all were ultimately dismissed because the plaintiffs had not produced any evidence to support their claims. Nevertheless, some doubt was planted in the public's mind about whether Novartis and these other support groups might "manipulate the public opinion behind the scenes," (Rodie 2001) taking away some of the absolute biological legitimacy of ADHD. Is it possible that we over-diagnose children because there is a powerful drug lobby that places profits over science?

Conclusion

"It is said that children are inattentive because they have ADHD and that they have ADHD because they are inattentive" (Tranøy 2001). With such circular logic, how do we identify a child as ADHD versus a child who is just being a child?

Perhaps ADHD is just an "extreme of a behavior that varies genetically throughout the entire population on a continuum" (Dopheide 2001), perhaps subjectively influenced by "culture-relative norms" (Tranøy 2001). Yet maybe it is a legitimate neurological and physiological disorder which has finally been brought to the public's attention for everyone's benefit.

I want to believe that we are doing the best for our country's youth, and that ADHD is a valid disorder with proven, helpful medication. ADHD is one of the best-researched disorders, and "the overall data on its validity are far more compelling than that for most mental disorders and even for many medical conditions" (CHADD 2002). On the other hand, "brain-behavior correlations do not constitute proof that ADHD reflects a disordered biological state. Variations in biological processes such as height and pulse rate *do not necessarily* reflect disordered biological processes, even at the tail end of their natural distributions. *Under some circumstances and for some children*, specific ADHD behaviors and traits might constitute adaptive behaviors that can also be maladaptive in other settings" (Jensen 2000). Is it possible that we have too readily accepted that extreme activities at the edge of the behavioral spectrum are, in fact, disordered biological processes?

In any case, the ambiguity and controversy surrounding the disorder has caused it to be both over- and under- diagnosed in this country, and perhaps in other westernized

countries around the world. I believe the dangers in inappropriately prescribing medication to children, and simply labeling them as abnormal, can lead to a lot of problems. Not only are there no cures for ADHD, the label stigmatizes these children, and with this new knowledge causes them to "rethink and change their self-image" (Schwartz 1999). I fear that if individuals change who they are by how they are labeled, they will ultimately fit themselves into a mold that might be detrimental to them and to society. Along with the increasing acceptance in our society of medicating the masses and of ADHD in general, we create this disorder as soon as we attach a name to it, and seek the easy way out – we take individuals from the extreme of a behavioral norm, and make them "sick," absolving any blame from parents, teachers and society.

What will the future hold for the ADHD community? Though there has already been extensive research on the disorder, we must investigate ways to quantitatively measure the symptoms, to remove the current subjectivity and to standardize the diagnosis process in general. We need to research the genetic, pathological and neurological aspects of ADHD in greater depth. And we need to increase public awareness of the facts – we must decrease the stigma attached to the ADHD label, and we must encourage parents to make independent decisions about treatment plans, and promote non-standard behavioral therapy as an option, in order to reduce current misdiagnoses and support overall health and safety for our children.

In retrospect, many believe that historical figures such as Thomas Edison, Babe Ruth, Eleanor Roosevelt, Albert Einstein, Alexander Graham Bell and Ludwig van Beethoven all had ADHD (ADHDinfo.com 2002). These role models are extraordinary examples of what our children are capable of accomplishing. We must seriously examine

our decision to medicate our youth, or else we might we destroy their creativity, their drive, and ultimately find ourselves in a society full of compliant “normal” people. If further research continues to validate the severity of the disorder, then we are fully justified in our current actions. Yet if ADHD becomes an epidemic, spiraling out of proportion, it will take education and willingness of the whole country to save our children.

Appendix A

Diagnostic criteria for Attention-Deficit Hyperactivity Disorder (APA 1994, p.83-85):

A. Either (1) or (2):

1. six (or more) of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

i. often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
ii. often has difficulty sustaining attention in tasks or play activities
iii. often does not seem to listen when spoken to directly
iv. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
v. often has difficulty organizing tasks and activities
vi. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
vii. often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
viii. is often easily distracted by extraneous stimuli
ix. is often forgetful in daily activities

2. six (or more) of the following symptoms of **hyperactivity-impulsivity** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

i. often fidgets with hands or feet or squirms in seat
ii. often leaves seat in classroom or in other situations in which remaining seated is expected
iii. often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
iv. often has difficulty playing or engaging in leisure activities quietly
v. is often "on the go" or often acts as if "driven by a motor"
vi. often talks excessively

Impulsivity

i. often blurts out answers before questions have been completed
ii. often has difficulty awaiting turn
iii. often interrupts or intrudes on others (e.g., butts into conversations or games)

B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Code based on type:

314.01 **Attention-Deficit/Hyperactivity Disorder, Combined Type**:
if both Criteria A1 and A2 are met for the past 6 months

314.00 **Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type**:
if Criterion A1 is met but Criterion A2 is not met for the past 6 months

314.01 **Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type**:
if Criterion A2 is met but Criterion A1 is not met for the past 6 months

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