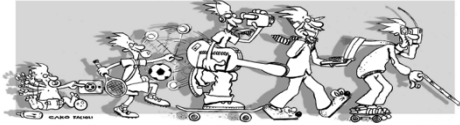


Attention Deficit Hyperactivity Disorder in Adults



Understanding, Evaluating and Managing a Lifetime Condition

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Did Great Ancient Hunters Have ADHD?



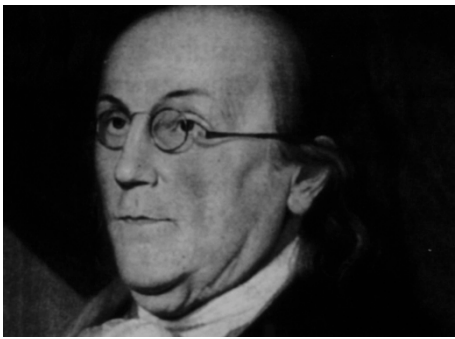
Did Great Explorers Have ADHD?



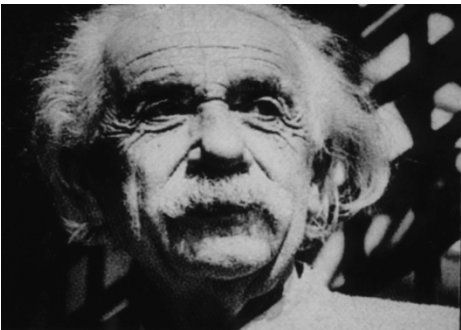
Did Our First President Have ADHD?



Did Great Americans Have ADHD?



Did Last Century's Great Thinkers
Have ADHD?



Do Successful Businessmen Have
ADHD?



Do Great Entertainers Have ADHD?



Is ADHD the holy grail of greatness?

If great men and women suffered from ADHD their achievements were despite not because of ADHD.

Goals For Today

- Offer scientific data about the chronic course and nature of ADHD.
- Appreciate an integrated model making sense of the large volume of ADHD data.
- Understand the complexities of the ADHD diagnosis in adulthood.
- Distinguish ADHD from other psychiatric conditions.
- Understand the diagnostic process.
- Briefly review treatment options.

Goals For Today

- Understand how to conduct a credible and comprehensive evaluation of ADHD in adulthood.
- To be able to distinguish ADHD from normal problems of everyday life.
- Understand the current state of scientific treatment for ADHD in adulthood.
- Understand documentation requirements in support of ADA requests.

A Brief Update on Adult ADHD



Epidemiological surveys find that 5–6% of children meet DSM-IV criteria for ADHD with a slightly higher prevalence expected when DSM-5 criteria are applied.

Meta-analysis of follow-up studies of children with ADHD found that at least 15% of children retained the full diagnostic criteria by the age of 25 years, with a further 50% of those meeting sub-threshold criteria with persistence of ADHD symptoms causing continued impairments.

However two recent follow-up studies of children from child mental health clinics in southeast England and the Netherlands, meeting DSM-IV combined-type (inattention and hyperactivity-impulsivity) criteria for ADHD, found far higher persistence rates of ADHD in young adulthood, in the region of 80%.

The increased prevalence of persistence in these studies might be related to the focus on combined-type cases, greater severity of ADHD in patients treated in European child mental health services, and the use of informant data when establishing the diagnosis at follow-up.

These findings are largely consistent with the estimated prevalence of ADHD in adults, which ranges from 2-5% to 3-4% in meta-analytic studies of population surveys.

However, all adults meeting diagnostic criteria for ADHD did not necessarily meet full ADHD criteria during their childhood. The present DSM-5 criteria allow for this possibility by stating that the criterion for age of onset is that “several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years”.

This criterion allows children with sub-threshold levels of ADHD symptoms and no impairment to meet diagnostic criteria for ADHD later in life and raises the possibility that the full diagnosis of ADHD might emerge at different developmental stages.

Interestingly, this account of later-onset ADHD shows the interdependence of the association between symptoms and impairments of the disorder.

For the vast majority of people diagnosed with ADHD in clinical settings during adulthood, there is a clear account of ADHD from childhood.

Very high rates of undiagnosed or untreated ADHD within adult clinical and forensic services are reported. Several studies point to high rates of undiagnosed ADHD in prisons (roughly 26%), addiction units (roughly 12%) and general adult mental health services (roughly 16%).

Age-appropriate ADHD Symptoms (DSM-5)

- . Mind seems elsewhere, even in the absence of any obvious distraction
- . Starts tasks, but quickly loses focus and is easily side-tracked
- . Fails to finish tasks in the workplace
- . Reporting unrelated thoughts
- . Problems returning calls, paying bills, keeping appointments
- . Difficulty in managing sequential tasks; difficulty in keeping materials and belongings in order; messy, disorganized work

Age-appropriate ADHD Symptoms (DSM-5)

- Poor time management
- Tends to fail to meet deadlines
- Feeling restless
- Unable or uncomfortable being still for an extended time, such as in restaurants or meetings
- Might be perceived by others as being restless and difficult to keep up with
- Butts into conversations or activities, might start using other people's belongings without permission, might intrude into or take over what others are doing

Symptoms and Impairments of ADHD That Can Mimic Other Mental Health Disorders: Anxiety

- Worrying about performance deficits
- Excessive mind-wandering
- Feeling overwhelmed
- Feeling restless
- Avoidance of situations due to ADHD symptoms, such as difficulty waiting in lines or social situations requiring focused attention
- Sleep problems linked to mental restlessness

Symptoms and Impairments of ADHD That Can Mimic Other Mental Health Disorders: Depression

- Unstable moods
- Impatience
- Irritability
- Poor concentration
- Sleep disturbance
- Low self-esteem

**Symptoms and Impairments of ADHD
That Can Mimic Other Mental Health
Disorders: Personality/Traits**

- Personality disorder (eg, borderline and antisocial)
- Chronic trait-like psychopathology linked to behavioral problems, emotional instability, impulsive behavior, and poor social relationships

**Symptoms and Impairments of ADHD
That Can Mimic Other Mental Health
Disorders: Bipolar Disorder**

- Restlessness
- Sleep disturbance
- Mood instability
- Ceaseless unfocused mental activity
- Distractibility

Why must we change our view of
ADHD?

[illegible]

Endorsed Symptoms of Adults With ADHD

- Difficulty with directions (98%)
- Poor sustained attention (92%)
- Shifting activities (92%)
- Easily distracted (88%)
- Losing things (80%)
- Fidgeting (70%)
- Interrupting (70%)

(Wilens, Biederman, Farone, et.al. 2009)

Prototypical Adult With ADHD

- Male
- Dysthymic
- More geographic moves
- Employed (90%)
- Less schooling
- Lower Socio-economic status
- More driving problems
- Substance problems
- General neuropsychological weaknesses related to self-regulation executive functioning and inhibition

What is the Mindset of Adults With ADHD?

- Pessimistic
- Negative world view
- External locus of control
- Helpless
- Negotiate daily life through a negative reinforcement model
- Frustrated

ADHD reflects exaggeration of normal behavior.

The symptoms of ADHD lead to a nearly infinite number of consequences

Self-regulation

- The ability to inhibit
- The ability to delay
- The ability to separate thought from feeling
- The ability to separate experience from response
- The ability to consider an experience and change perspective
- The ability to consider alternative responses

Self-regulation

- The ability to choose a response and act successfully towards a goal
- The ability to change the response when confronted with new data
- The ability to negotiate life automatically
- The ability to track cues

Poor self-regulation is
synonymous with. . .

Poor self-control

Poor self-regulation leads to . . .

Impulsive behavior

Poor self-regulation leads to:

- Knowing what to do is not the same as doing what you know
- Cue-less behavior
- Inconsistent behavior
- Unpredictable behavior
- The illusion of competence
- Riding an emotional roller coaster
- Problems with automatic behavior

Conditions Under Which Inattention Is Observed

- Repetitive
- Effortful
- Uninteresting
- Not chosen

Conditions under which problems with consequences are observed

- Delayed
- Infrequent
- Unpredictable
- Lacking saliency

The consequence is worse than the symptom

NEGATIVE REINFORCEMENT

ADHD is a developmental disability with a childhood onset that typically results in a chronic and pervasive pattern of impairment in school, social and/or work domains, and often in daily adaptive functioning.

Personality Disorders in Adults With ADHD

- Anti-social personality (22%)
- Passive aggressive personality (19%)
- Borderline personality (14%)
- Histrionic (11%)
- Avoidant (11%)

(Barkley et al, 1998)

Personality Issues in Adults With ADHD

- Pessimistic, negative world view
- External locus of control
- Self-centered style
- Chaotic life-style
- Disorganized
- Introversive
- Passive

(Robin et al, 1998)

These personality issues comprise
55% of adults with ADHD vs. only 12%
of the unaffected population

Behavior Manifestations

- Trouble focusing/concentrating
- Distractible/sidetracked
- Trouble finishing tasks
- Themes of intense frustration
- Underachievement

Behavior Manifestations

- Poor organization and planning
- Procrastination
- Mental/physical restlessness
- Impulsive decision making
- Frequent impulsive job changes
- Poor academic grades for ability
- Chronic lateness
- Frequently lose/misplace things

Work and School Concerns

- Poor self-regulation
- Can't sustain attention to paperwork
- Trouble staying alert and focused
- Poor organization and planning
- Procrastination
- Poor time management
- Subjective sense of restlessness

Work and School Concerns

- Impulsive decision making
- Unable to work well independently
- Trouble following directions
- Change jobs impulsively
- Often late
- Forgetful
- Poor self-discipline.

Interpersonal Concerns

- Impulsive comments to others
- Quick to demonstrate emotion
- Stress intolerance
- Poor adherence to obligations
- Viewed by others as immature
- Talk excessively/listen poorly
- Problems sustaining friendships and relationships
- Miss social cues

Adaptive Behavior Problems

- Trouble with financial matters including checkbooks, money management, debt, and impulsive spending
- Trouble organizing/maintaining the home
- Spouse may feel overburdened
- Inconsistent/unreliable
- Driving problems
- Habit and abuse problems

Emotional Problems

- Immaturity (50%)
- Low frustration tolerance
- Over-reaction to situations
- Poor self-esteem
- Demoralization

DSM 5 Diagnostic Categories For ADHD

- ADHD Inattentive Type
- ADHD Hyperactive-Impulsive Type
- ADHD Combined Type

Is the Inattentive Type of ADHD a Distinct Disorder?

- Better prognosis
- Fewer adverse family variables
- Fewer problems with disruptive behavior
- Greater risk of learning disability
- Greater risk of internalizing problems
- Socially neglected
- Higher incidence in females vs. males

Females With ADHD

- Similar to clinic referred males for incidence of emotional and learning problems in childhood.
- Fewer disruptive behavioral problems than clinic referred males in childhood.
- Adult studies suggesting fewer anti-social personality problems than males with ADHD but likely similar emotional problems.
- Higher ratio of Inattentive to Combined Type in childhood and likely adulthood vs. males.

Problems With the DSM 5 ADHD Diagnosis

- Categorical models don't predict as well as dimensional models
- Too few impulsive symptoms (3)
- Polythetic system
- Symptom threshold issues
- Age of onset
- Impairment issues

Why is Diagnosis Complex?

- Symptoms represent excess of normal behavior
- Criteria have changed, particularly impairment requirements
- Symptoms are common to many diagnoses
- Continuum – clinical judgment critical

Why is Diagnosis Complex?

- Childhood data vague and often missing
- Comorbidity common
- Measuring impairment is difficult
- No litmus test

ADHD is NOT:

- A simple matter of symptom endorsement
- Simply the identification of certain personality traits
- Advantageous to have

Key Questions to Consider in the Diagnostic Process

- Are key symptoms clearly present?
- Is there objective evidence that these symptoms cause significant impairment in multiple domains of daily adaptive functioning?
- Have these symptoms been unremitting since childhood? If not, why?
- Have these symptoms been chronic and pervasive? If not, why?

Key Questions to Consider in the Diagnostic Process

- What evidence exists that these symptoms are not primarily or exclusively due to other factors such as lack of effort, secondary gain, etc.
- Is the individual putting forth best effort?
- Are the person's symptoms better explained by another psychiatric or medical condition?
- Is there evidence of comorbidity?

Diagnostic Guidelines

- Use self-report of ADHD symptoms:
- For current symptoms use DSM flexibly
- For childhood recall of symptoms use DSM
- Mandatory corroboration
- Paper trail of impairment
- Onset of symptoms before age 13?

Diagnostic Guidelines

- Chronic course, no remission
- Impairment in major life activities using average person standard
- If impairment arose late must be explained
- Rule out: low IQ, LD, anxiety, depression as primary cause of symptoms

Diagnostic Issues

- Under/over report of symptoms
- Poor retrospective recall of childhood
- Under reporting of symptoms by others
- Lack of corroboration
- Limited records
- Viewing all inattention as symptomatic of ADHD
- Legal advantages

Aids in Formulating Diagnosis

- Use of records to establish onset and chronicity
- Multiple informants
- Discrepancy between IQ, achievement and grades
- Clinical presentation

Assessment Dilemmas

- Questionable childhood onset
- Discrepant data
- Self-report only
- Lack of past documentation
- Differences between reporter

Assessment Dilemmas

- Substance abuse/dependence issues
- Questionable level of impairment
- Co-morbidity
- Interpreting test scores

Assessment Tools

- History
- Self-report measures
- Other report measures
- Tests of attention and inhibition
- Cognitive (memory, processing, etc.) measures
- Intellectual measures
- Personality measures

Attention is a Complex Process

- Psychological disturbances and neurological conditions predict attention
- Attention predicts general memory
- General memory predicts verbal and spatial memory

Tasks Sensitive and Specific to ADHD

- Simple sequential memory tasks
- Learning tasks
- Story memory tasks
- Perceptual search tasks
- Distraction tasks
- Executive function tasks
- Inhibition & attention tasks

Neuropsychological Performance Deficits in Adults With ADHD

- Memory deficits (poor encoding)
- Poor visual-motor integration and tracking
- Slow psychomotor speed
- Poor cognitive flexibility
- Problems increase as task complexity increases
- Conflicting findings based on limited studies

Tests of Attention and Inhibition

- Conners Continuous Performance Test
- Gordon Diagnostic System
- Tests of Variables of Attention
- Intermediate Visual and Auditory Test

First meta-analysis of
neuropsychological performance of
adults with ADHD.

1675 subjects, 24 studies, 10
neuropsychological functions

In 8 of 10 neuropsychological
functions subjects with ADHD
demonstrated significant
performance deficits.

Small effect size was found for:

- Visual memory
- Visual problem solving
- Executive functions defined as planning and control of actions

Large effect size was found for:

- Verbal memory
- Focused attention
- Sustained attention
- Working memory
- Abstract verbal problem solving

Simple alertness tasks dependent upon psychomotor reaction time were less impaired than more complex attention tasks.

Based upon these data executive and inhibitory tasks may not be the best way of distinguishing ADHD in adults.

These data speak strongly to a significant deficit in neurocognitive functions in adults with ADHD.

This deficit may be best characterized by impaired verbal memory and low achievement for tasks requiring focused and/or sustained attention.

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Archives
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The Neurocognitive Profile of Attention-Deficit/Hyperactivity Disorder: A Review of Meta-Analyses

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This review is the first to aggregate meta-analyses comparing the neurocognitive performance of individuals with ADHD to that of healthy controls and is the most in-depth evaluation of the neurocognitive profile of ADHD to date.

The meta-analyses reviewed consistently found that typically developing individuals outperformed their peers with ADHD. Between-groups differences were larger in children and adults and smaller in adolescents.

Additionally, meta-analyses that received drug funding found larger effect sizes than those without drug funding. Individuals with ADHD had the greatest deficits relative to healthy controls in the neurocognitive domains of reaction time variability, intelligence/achievement, vigilance, working memory, and response inhibition.

These results lend support to the default mode model, which posits that deficits in ADHD arise because the brain has difficulty switching from rest mode to an active mode.

Will a battery of tasks reliably facilitate the clinical diagnosis of ADHD?

NOT AT THIS TIME. THESE INSTRUMENTS ARE DESCRIPTIVE RATHER THAN DIAGNOSTIC!

These measures may be sensitive and specific. Some may even possess positive predictive power. None possess clinically significant negative predictive power.

Differential Diagnosis

- Schizophrenia
- Personality disorders
- Substances
- Brain injury
- Mood disorders
- Anxiety disorders
- Bipolar disorder

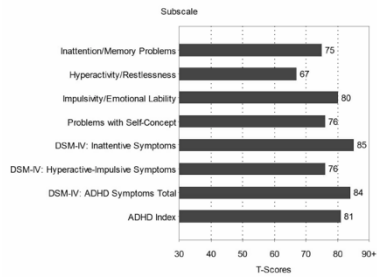
Differential Diagnosis: These conditions usually have:

- Later onset
- Inconsistent childhood history
- Different course and symptom constellation
- In bipolar disorder: bursts of productivity, cyclical mood swings, family history, differing symptom profile, and atypical medication response

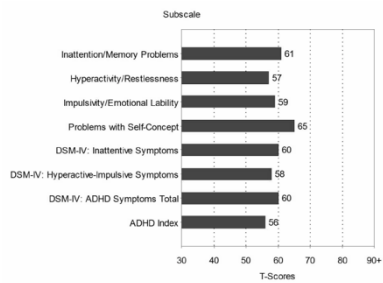
Case Sample

- 43 year old male
- Childhood history of ADHD
- Struggles at work
- Problems in relationships
- No tx as adult
- Thinks he has outgrown ADHD
- Seeks help at the request of his wife

CAARS-OR



CAARS-SR



Assignment of a diagnostic label
does not mean the person is
automatically entitled to
accommodations.

Documentation standards are more stringent than clinical practice.

A disability is a physical or mental impairment that substantially limits one or more major life activities.

An individual is not substantially limited if the impairment does not amount to a significant restriction when compared with the abilities of the average person.

To be protected by the ADA, an individual must be truly disabled relative to the general population.

Successful compensation belies substantial impairment.

Documentation For ADA

- Impairment before age 18
- Impairments in major life activities relative to average person
- Rule out or explain other conditions
- Explain prior treatments and accommodations
- Explain why more are needed
- Justify desired accommodations

Documentation For ADA

- Possess proper clinical credentials
- Use DSM for current and retrospective symptoms
- Obtain corroboration
- History of childhood onset
- History of chronic, unrelenting course

Accommodations should only address the interactions between functional impairments and task demands.

Complex Interactions: Plausible Causes of ADHD

- Likely a polygenetic contribution contributing at least 70% of the variance in symptom contribution
- Structural (corpus callosum, right hemisphere) and total brain volume (approximately 3-5% smaller) differences

Complex Interactions: Plausible Causes of ADHD

- Differences in glucose metabolism in right pre-frontal cortex
- Excessive metabolites of neurotransmitters
- Differences in sleep and waking EEG patterns

Treatment of Adult ADHD



Treatment Model For Adult ADHD

- Education about living with the condition
- A systems mindset
- Medication
- Cognitive behavioral counseling
- Coaching?
- Vocational support
- Balance process vs. product activities
- Family and parenting support

Adopt Learning to Swim Model

Five keys to successful management of
ADHD

- Make tasks interesting
- Make payoffs valuable
- Adjust expectations for change
- Allow more trials to mastery
- Allow more time for change

Symptom relief is not synonymous
with changing long term outcome

Psychosocial Interventions for ADHD

- Environmental manipulation of the physical plant
- Environmental manipulation of consequences
- Modification of cognitive function

Managing the Symptoms of ADHD With Medications

Reducing Symptoms to Improve
Consequences

Pills Will Not Substitute for Skills

But They Will Relieve Symptoms

Do stimulants and other classes of drugs beneficial for ADHD act as selective dopamine reuptake inhibitors?

Preparations Used to Treat ADHD

- Methylphenidate (Concerta, Metadate, Methalyn)
- Dexedrine
- Cylert
- Mixed salts of Amphetamine (Adderall)
- Bupropion
- Tricyclics (Imipramine, desipramine, nortriptyline)
- Atomoxetine (Strattera)

Demonstrated Side Effects of Stimulants

- Anorexia
- Insomnia
- Irritability
- Headache
- Stomachache
- Rebound irritability
- Tics?

Other Classes of Drugs Tried For ADHD

- Selective serotonin reuptake inhibitors
- Venlafaxine
- Anti-convulsants
- Anti-psychotics
- Anti-hypertensives
- Propanolol
- Levodopa

Are non-stimulants effective for ADHD?

Maybe, but most are not!

Psychosocial Interventions For Adult ADHD

- Education
- Vocational guidance
- Academic accommodations
- Cognitive counseling
- Coaching?
- Marital counseling

Key Goals of Intervention

- Instill hope and empowerment
- Educate
- Reframe
- Build self-esteem and self-acceptance

Key Goals of Intervention

- Form a partnership
- Reduce discouragement through setting realistic goals
- Address and rewrite negative scripts
- Focus on strengths
- Build resilience

Is Counseling for ADHD Non-Traditional?

- Active role of therapist
- Cognitive behavioral model
- Similar to working with individual's with neurological conditions. Therapist takes an active even directive role.
- Involve support system
- Offer guidance and advice.

We must possess the courage,
integrity, patience and knowledge to
help those in need regardless of the
current state of scientific and political
affairs.

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APSARD 
The American Professional Society
of ADHD and Related Disorders
