What You Should Know

Presented by:
Rachel Rogers, B.Ed., M.A.
Registered Psychologist

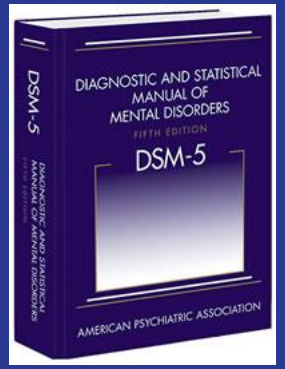
Presentation Goals

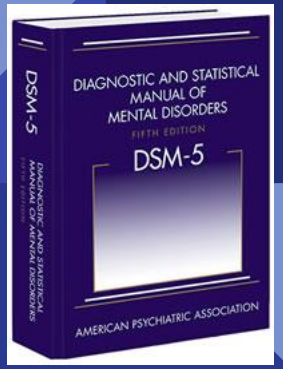
1. What is ADHD?
2. Etiology (possible causes/contributing risk factors)
3. The Brain and Executive Function
4. Long-Term Outcomes
5. 3 Presentations of ADHD and Gender Differences
6. Diagnostic Process (including common comorbidities)
7. Resources

ADHD….Not ADD

Attention-Deficit/Hyperactivity Disorder (ADHD) is the official terminology.

The use of ‘ADD’ is outdated.





According to the DSM-5

“A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development.”

ADHD Facts

- ADHD is the most prevalent childhood psychiatric disorder in Canada.
- Overwhelming scientific evidence has led all major medical associations and government health agencies to recognize ADHD as a real medical disorder.
- Children with ADHD are frequently labeled as problem children rather than children with a medical problem.
- Diets and limiting food additives and sugar will not cure ADHD.
- ADHD remains under-recognized and underdiagnosed even though it is the most treatable psychiatric disorder in Canada.

A study released in 2018 examined the twenty-year trends in ADHD diagnosis. Researchers saw what they claim is a “significant” increase in diagnoses between 1997 and 2016.

Possible reasons include an increased recognition by doctors about ADHD, expanded continuing medical education, changes in diagnostic criteria, increased public awareness, improved access to health services, and improved referral from primary care and communities.

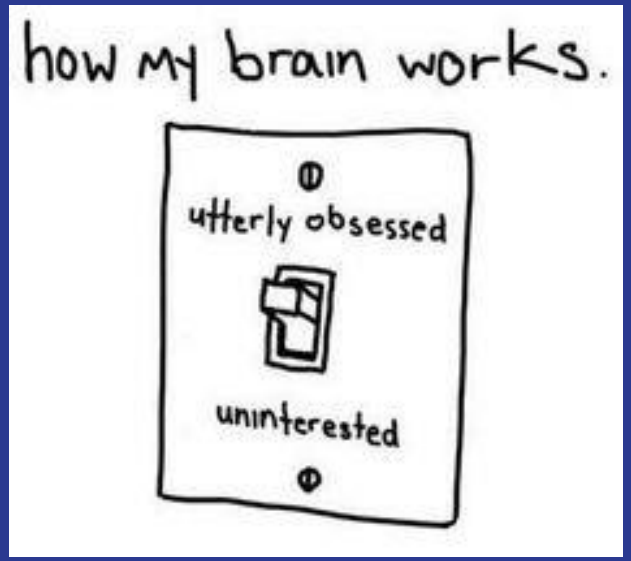
Xu, G., Strathearn, L., Liu, B. MD, Yang, B., Bao, W. 2018. **Twenty-Year Trends in Diagnosed Attention-Deficit/Hyperactivity Disorder Among US Children and Adolescents, 1997-2016.** *JAMA Netw Open.* 1(4):e181471. doi:10.1001/jamanetworkopen.2018.1471

More Facts

- Highly heritable
- A neurobiological disorder
- Inattention, hyperactivity, and impulsivity are primary features
- Secondary impairments may include social interactions, emotional regulation, and organizational ability
- Affects roughly 5-10% of school-aged children and about 2−7% of adults
- Most often identified during elementary school years

A Misnomer?

ADHD is <u>not</u> a deficit of attention; rather, it is an inefficient and inconsistent ability to regulate attention and other cognitive functions.



“ADHD involves an impairment in the ability of the individual
to inhibit responses to situations or events.

[...] <u>It is a problem of self-control</u>.”

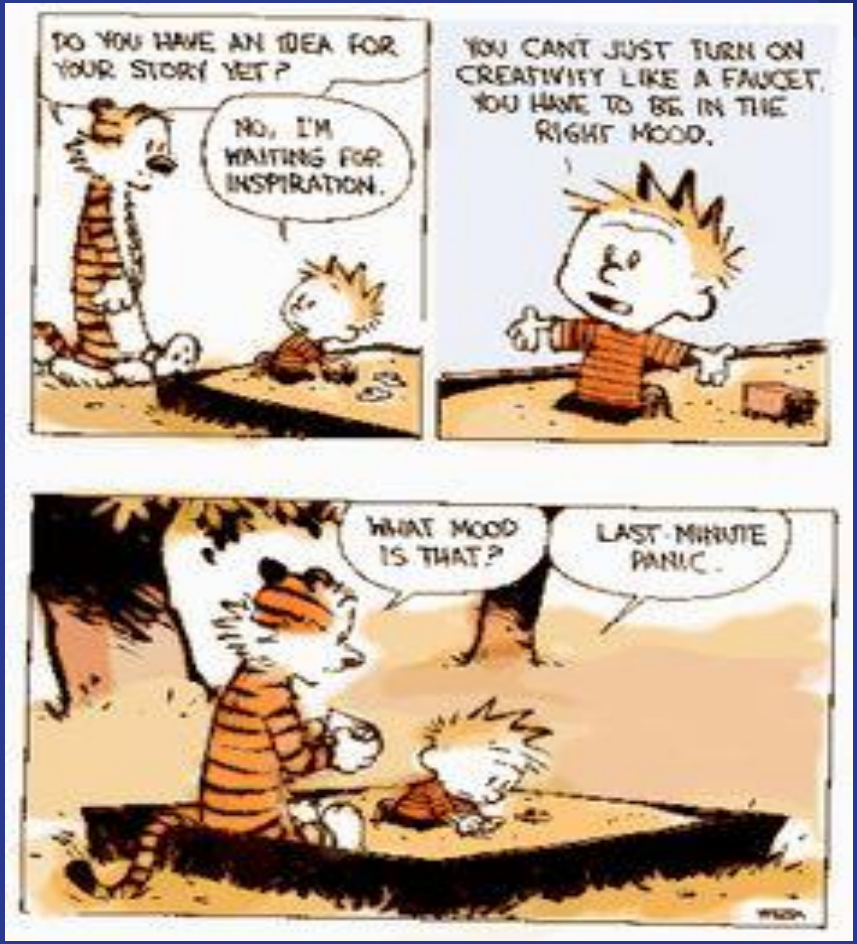
Dr. Russell Barkley (2005), Taking Control of ADHD

According to Dr. Barkley…

Self-regulation:

- is any action an individual directs at themselves so as to...
- result in a change in their behaviour (from what they might otherwise have done) in order to...
- change the likelihood of a future consequence or attainment of a goal.

http://www.russellbarkley.org/factsheets/ADHD_EF_and_SR.pdf


DO YOU HAVE AN IDEA FOR YOUR STORY YET?
NO, I'M WAITING FOR INSPIRATION.
YOU CAN'T JUST TURN ON CREATIVITY LIKE A FAUCET. YOU HAVE TO BE IN THE RIGHT MOOD.
WHAT MOOD IS THAT?
LAST-MINUTE PANIC.

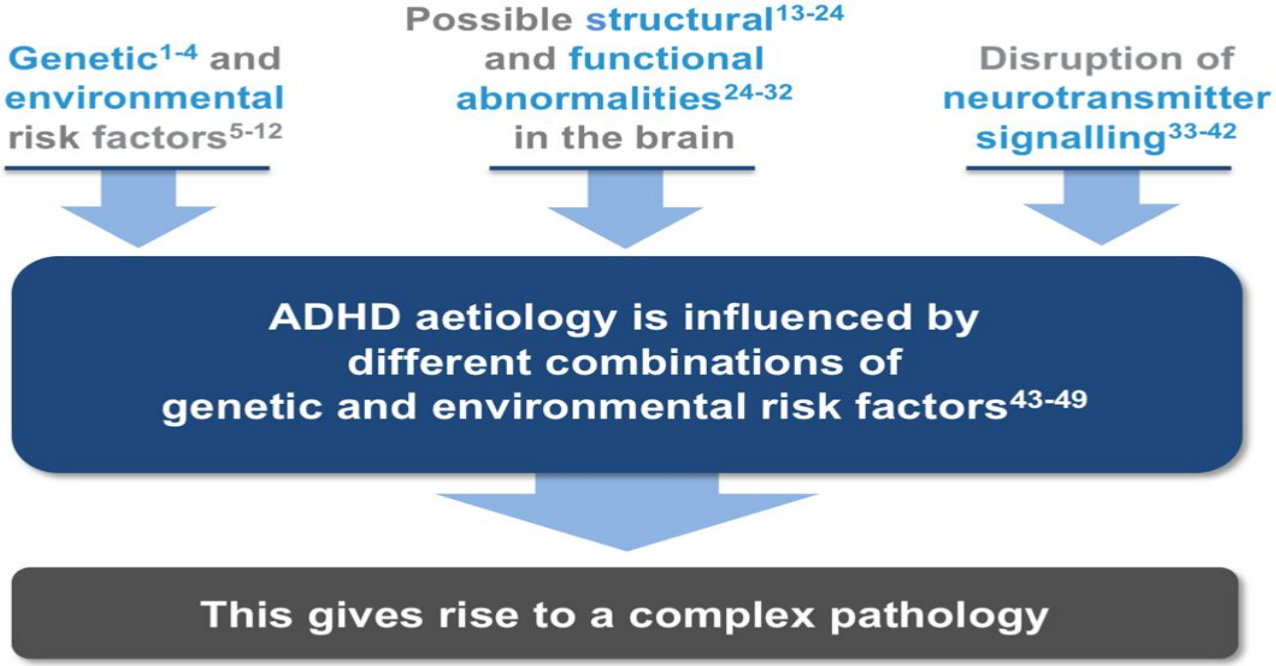
NOT INSPIRED.
DEC. 29
MEH.
DEC. 30
NOT FEELING IT.
DEC. 31
NOPE.
JAN. 1
ALMOST... BUT NOT QUITE.
JAN. 2
AAAAAGH!
JAN. 3
EVERYTHING IS DUE TOMORROW!!
INSPIRATION HAS STRUCK.
AND IT USED BOTH FISTS.
SCOTT ADAMS
ZITSCOMICS.COM

Copyright 2003 by Randy Glasbergen.
www.glasbergen.com
"I'm not procrastinating. I'm proactively delaying the implementation of the energy-intensive phase of the project until the enthusiasm factor is at its maximum effectiveness."

Risk factors for ADHD

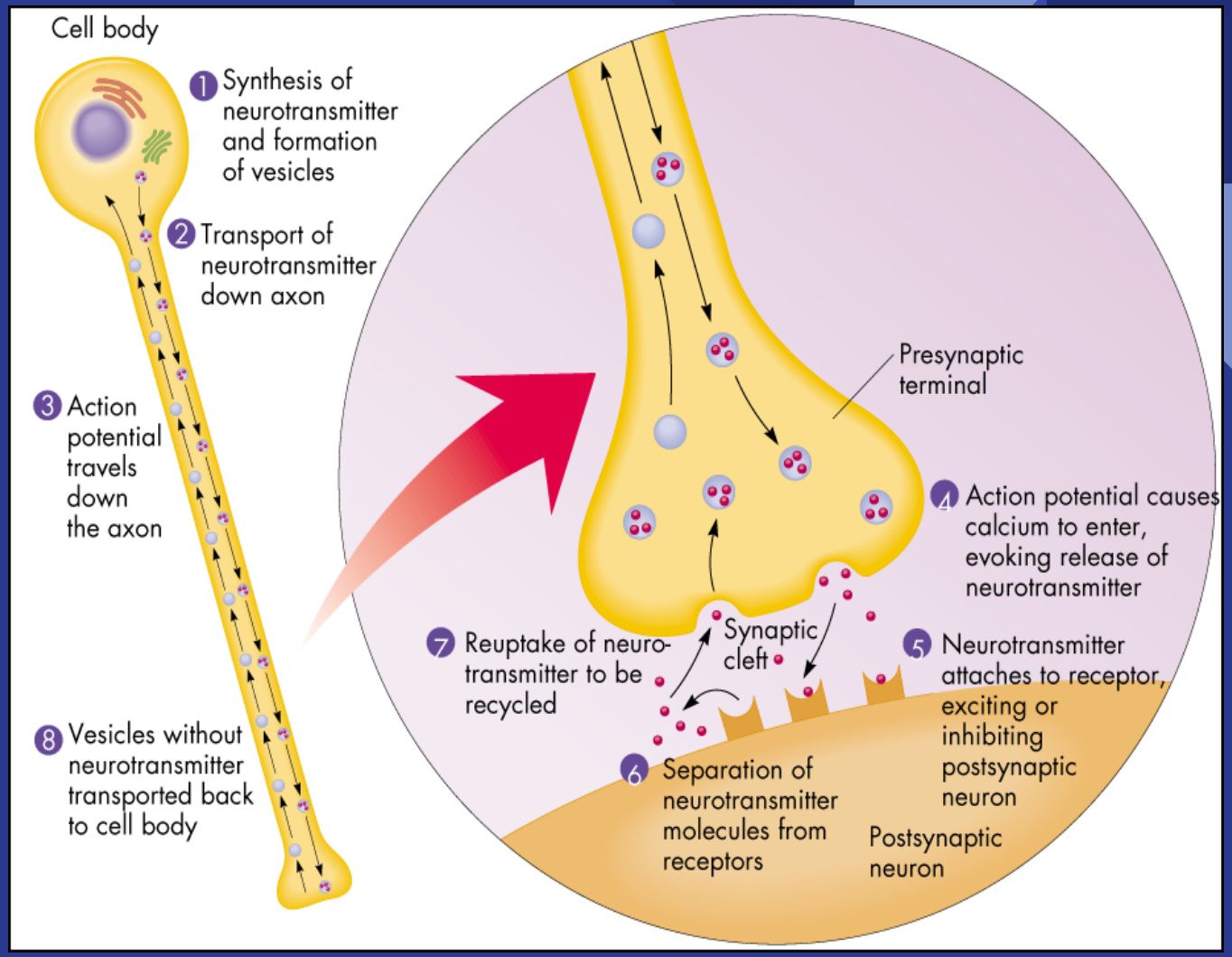
- Genetic factors
- Environmental factors
- Premature birth or low birth weight
- Brain injury
- Cigarette smoking, alcohol use, or drug use during pregnancy

Aetiology and pathology of ADHD: *Summary of pathways*



The role of neurotransmitters – the brain's chemical messengers.

Implicated in ADHD:
Dopamine
Norepinephrine
Serotonin



FISH OIL
NOISE
RESTLESSNESS
ODD
FAST-PACED
MIND
DEPRESSION
SMART
OBSESSIVE
CREATIVE
GENES
FUNCTION
CURIOUS
COGNITIVE
GIRLS
BRAIN
FRUSTRATED
PREFRONTAL CORTEX
INATTENTIVENESS
HYPERACTIVITY
ADHD
HOMESCHOOLING
WOMEN
MEDICATION
GIFT
ATTENTION
EXECUTIVE
ORGANIZATION
HYPERACTIVE
PROCESS ORIENTED
SUGAR
DISORGANIZATION
EMOTIONAL
DIET
GLUTEN
SENSITIVITY
IMPULSIVITY
THINKER
EMOTIONS
BOYS
MOTIVATION
FOCUS
MEMORY
ACCIDENT PRONE
ANGER
ADD
GIFTED
COMPULSIVE
ADULTS
MEN
SCHOOL
TASK

“Executive function
is the conscious control or
self-regulation of thought,
action, and emotion.”

Dr. Philip David Zelazo, PhD, Developmental Psychologist and Neuroscientist

Executive functions represent a constellation of cognitive abilities that drive goal-oriented behaviour and are critical to the ability to adapt to an ever-changing world.

Rabinovici, GD, Melanie L. Stephens, M.L., and Katherine L. Possin, K.L. 2015. Executive Dysfunction. Behavioral Neurology and Neuropsychiatry, 21(3) 646–659. doi: 10.1212/01.CON.0000466658.05156.54

How is the brain involved with executive function?

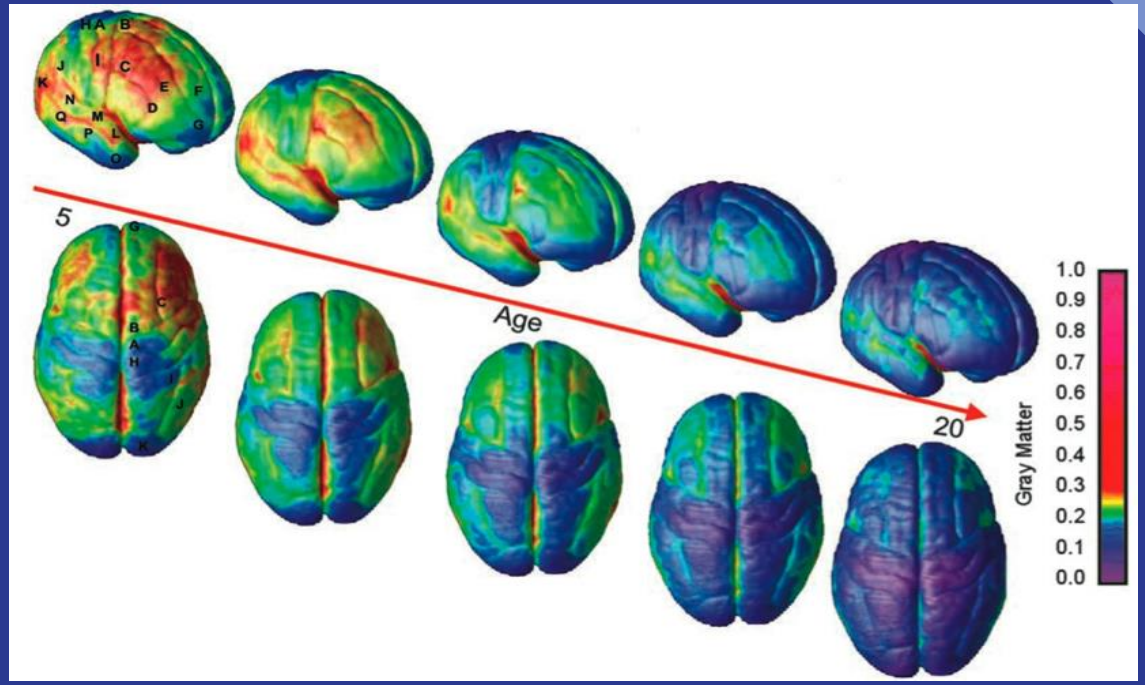
The frontal lobe is widely considered to be associated with executive function.

Maturity of the Frontal Lobe

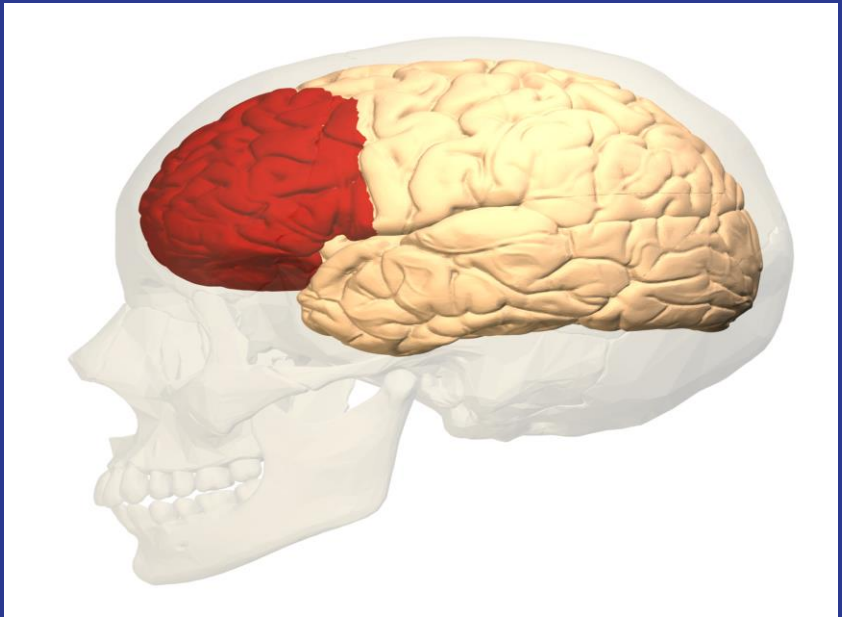
This area is one of the last regions of the brain to reach maturity, some time in the early adulthood years.

MRI of brain development.

www.edinformatics.com/news/teenage_brains



Prefrontal Cortex



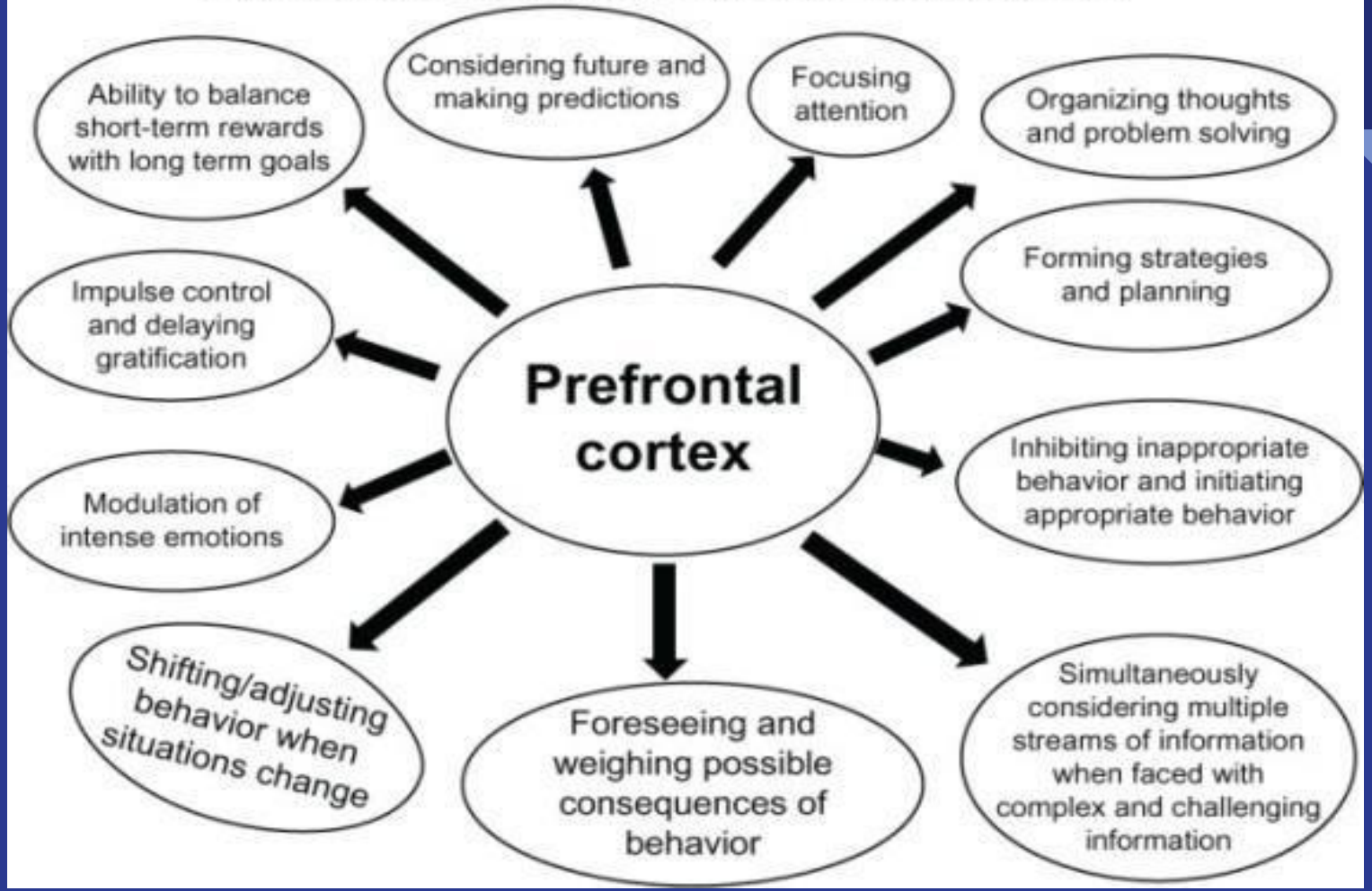
The prefrontal cortex is the cerebral cortex covering the front part of the frontal lobe.

The basic activity of this brain region is considered to be orchestration of thoughts and actions in accordance with internal goals. The typical psychological term for functions carried out by the prefrontal cortex area is executive function.

Barkley RA: Attention-deficit/hyperactivity disorder, self-regulation, and time: toward a more comprehensive theory. J Dev Behav Pediatr. 1997, 18 (4): 271-279.

Willcutt EG, Doyle AE, Nigg JT, Faraone SV, Pennington BF: Validity of the executive function theory of attention-deficit/hyperactivity disorder: a meta-analytic review. Biol Psychiatry. 2005, 57 (11): 1336-1346.

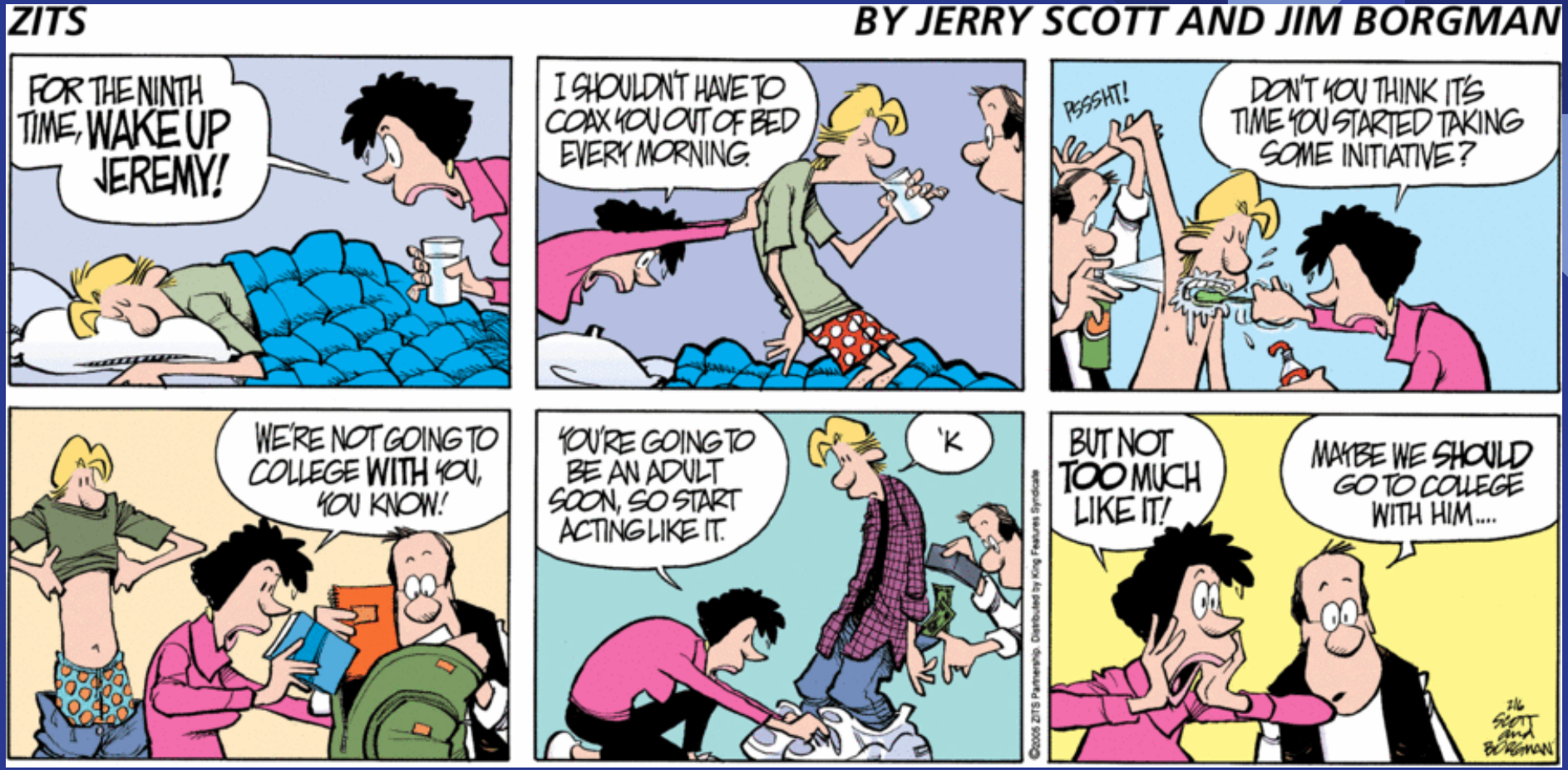
Executive human brain functions



As essential as they are, we aren’t born with the skills that enable us to control impulses, make plans, and stay focused.

We are born with the potential to develop these capacities—or not—depending on our experiences during infancy, throughout childhood, and into adolescence.

Center on The Developing Child - Harvard University
https://developingchild.harvard.edu/


ZITS
BY JERRY SCOTT AND JIM BORGMAN
FOR THE NINTH TIME, WAKE UP JEREMY!
I SHOULDN'T HAVE TO COAX YOU OUT OF BED EVERY MORNING.
PSSSHT!
DON'T YOU THINK IT'S TIME YOU STARTED TAKING SOME INITIATIVE?
WE'RE NOT GOING TO COLLEGE WITH YOU, YOU KNOW!
YOU'RE GOING TO BE AN ADULT SOON, SO START ACTING LIKE IT.
'K
BUT NOT TOO MUCH LIKE IT!
MAYBE WE SHOULD GO TO COLLEGE WITH HIM....
©2006 ZITS Partnership, Distributed by King Features Syndicate

Implications of a Diagnosis of ADHD

<u>Without intervention</u>…

children,

adolescents,

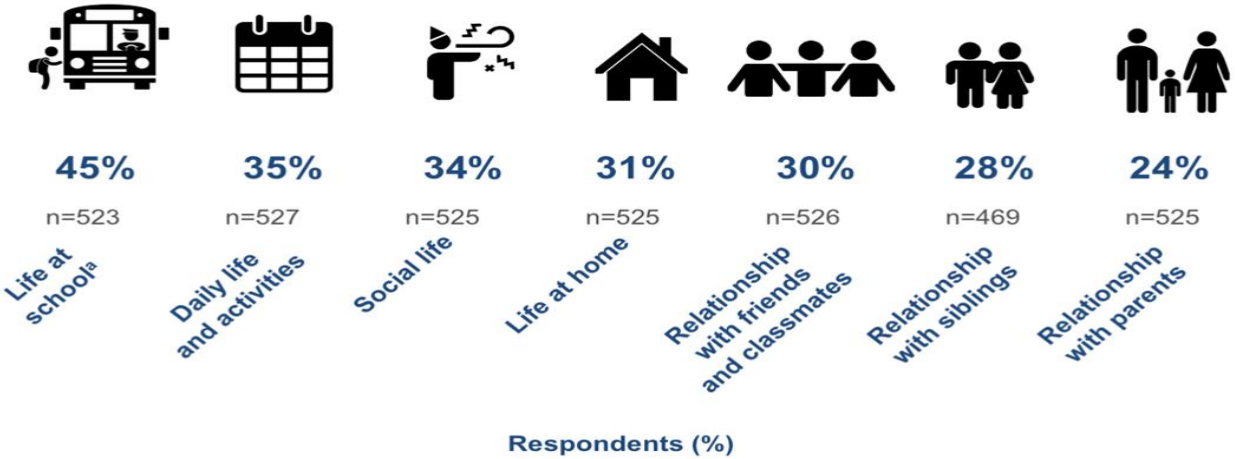
and adults with ADHD

are at a greater risk for…

Lifetime impairment: a parent/caregiver perspective[1]

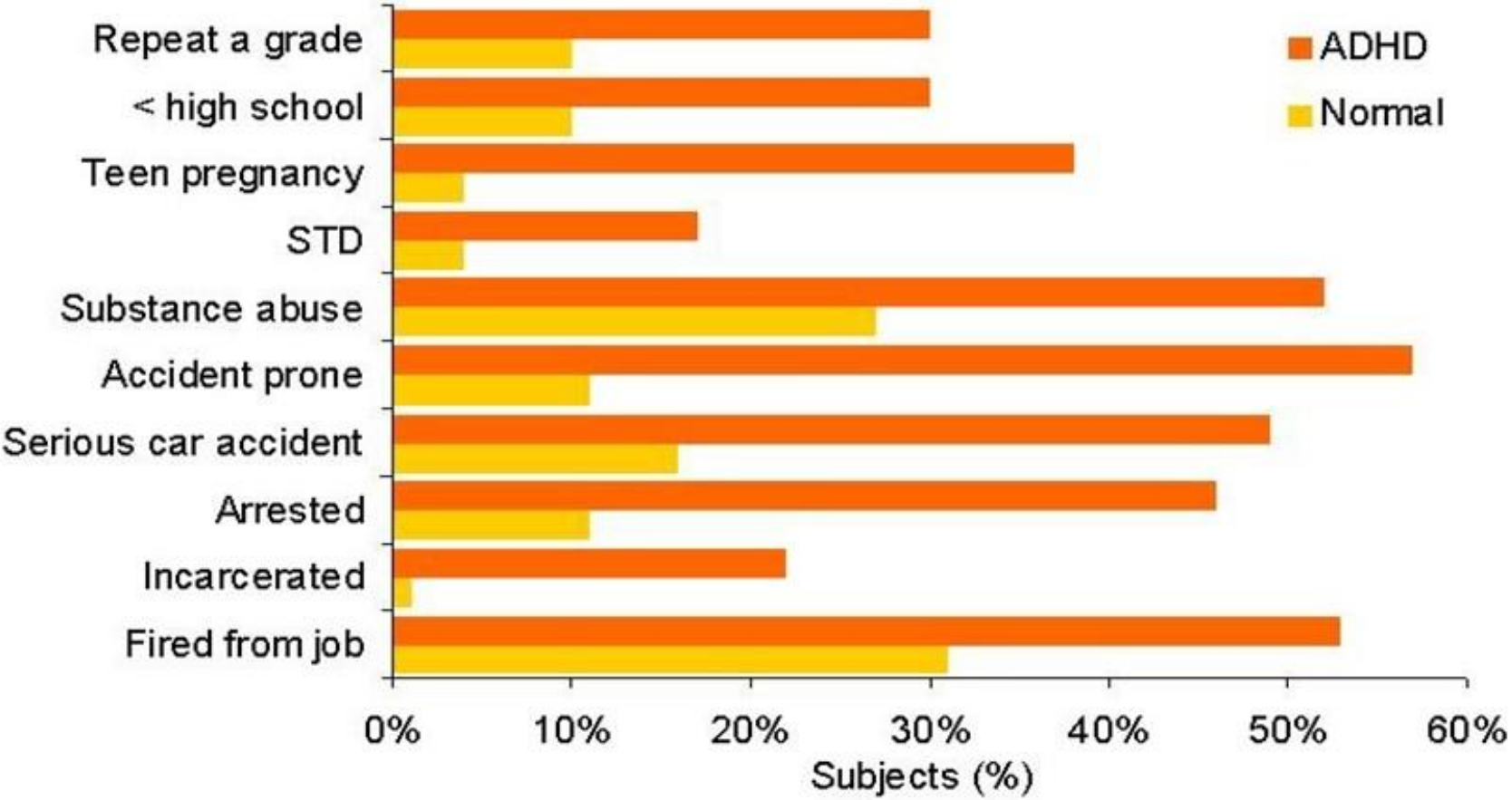
- The large, cross-sectional, **European Lifetime Impairment Survey** assessed the impairment and symptoms of ADHD in children and adolescents from France, Germany, Italy, Spain, the Netherlands and the UK

Percentage of parents/carers (n=535) who reported that ADHD had a strong or moderate negative impact on the different aspects of everyday life



[a]Limited to children aged >6 years only

https://adhd-institute.com/ADHDacross/index.html



Barkley RA. *Attention-Deficit Hyperactivity Disorder. A Handbook for Diagnosis and Treatment*, 1998. Barkley RA, et al. *JAACAP*. 1990;29:546-557 Biederman J, et al. *Arch Gen Psychiatry*. 1996;53:437–446. Weiss et al. *J Am Acad Child Psychiatry*. 1985;24:211-220. Satterfield, Schell. *JAACA* 1997;36:1726-1735. Biederman J, et al. *Am J Psychiatry*. 1995;152:1652-1658.

Long-Term Outcomes

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3520745/

Outcomes from 351 studies were grouped into nine major categories:

- academic
- antisocial behavior
- driving
- non-medicinal drug use/addictive behavior
- obesity
- occupation
- services use
- self-esteem
- social function outcomes

Shaw, M., Hodgkins, P., Caci, H., Young, S., Kahle, J., Woods, A.G., and Arnold, LE. A systematic review and analysis of long-term outcomes in attention deficit hyperactivity disorder: effects of treatment and non-treatment. BMC Med. 2012; 10: 99

The following broad trends emerged:

1. Without treatment, people with ADHD had poorer long-term outcomes in all categories compared with people without ADHD

2. Treatment for ADHD improved long-term outcomes compared with untreated ADHD, although not usually to normal levels.

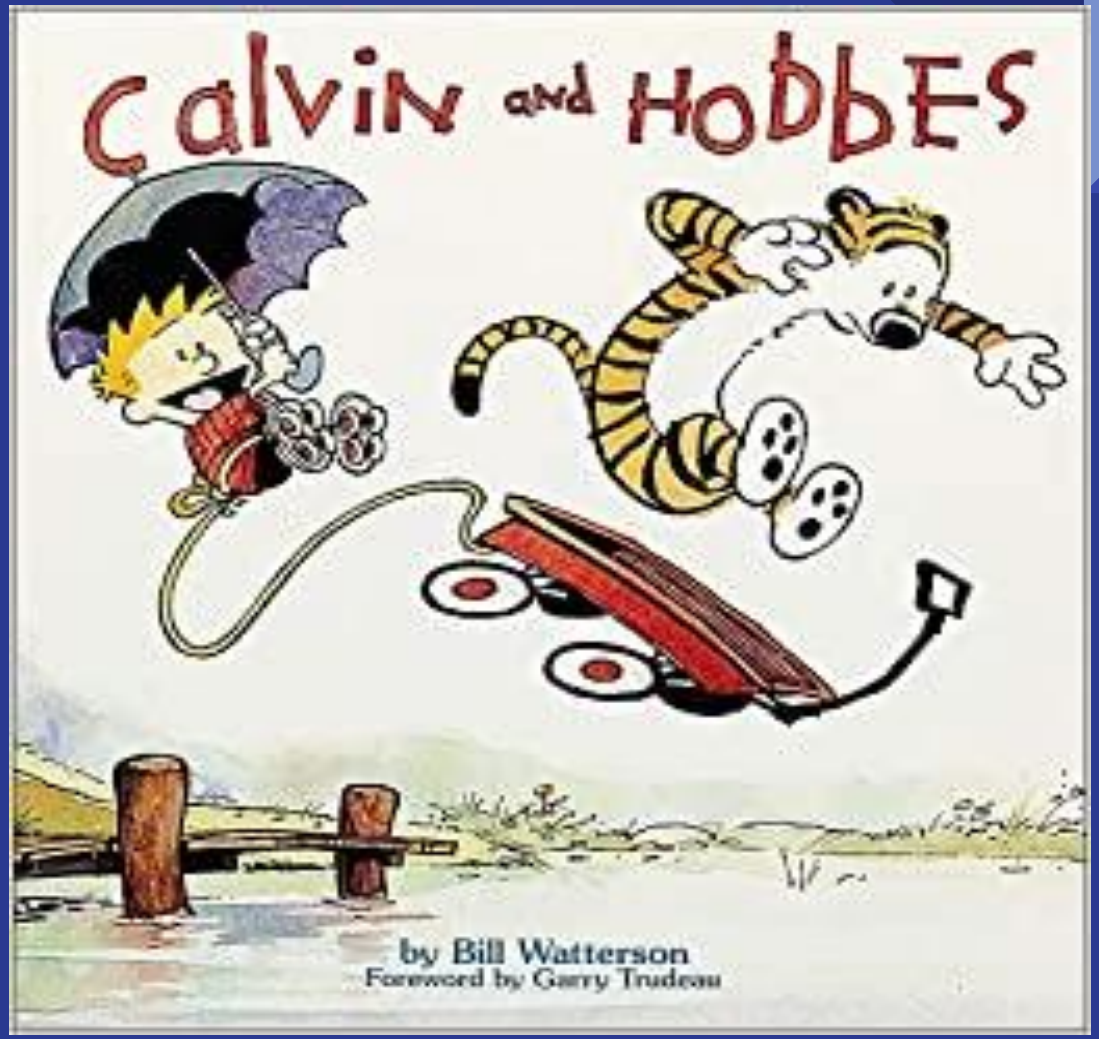
The 3 Types of ADHD

- ADHD, Predominantly Hyperactive-Impulsive Presentation
- ADHD, Predominantly Inattentive Presentation
- ADHD, Combined Presentation

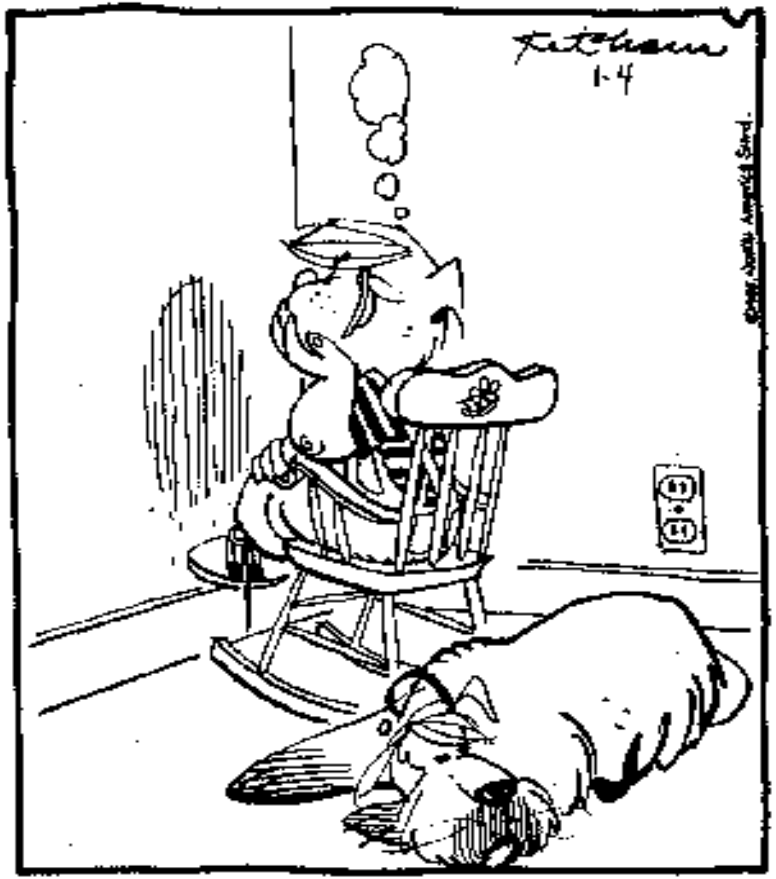
Understood

Predominantly Hyperactive/Impulsive Presentation

- Feels restless, often fidgets with hands or feet, or squirms
- Runs or climbs excessively
- Often talks excessively
- Often blurts out answers before hearing the whole question
- Often has difficulty awaiting turn
- Makes spur-of-the moment decisions


Calvin and Hobbes
by Bill Watterson
Foreword by Garry Trudeau

DENNIS THE MENACE



"BY THE TIME I THINK ABOUT WHAT I'M GONNA DO...I ALREADY **DID** IT!"

Predominantly Inattentive Presentation

- Often fails to give close attention to details or makes careless mistakes
- Often has difficulty with sustained attention to tasks
- Often does not seem to listen when spoken to directly
- Often easily distracted
- Often fails to follow instructions carefully and completely
- Loses or forgets important things

A PLACE FOR EVERYTHING, AND EVERYTHING IN ITS PLACE.
MOM, I CAN'T FIND MY DRESSER.
ARE THESE PEOPLE RELATED?
10/11
SCOTT and BOB GUNN
©2009 ZITS Partnership. Distributed by King Features Syndicate.

Combined Presentation

- Meets 12 criteria for both Inattention and Hyperactivity/Impulsivity.
- This is the most common diagnosis.

IMPORTANT

There are nine criteria for each of the Inattentive and Hyperactive/Impulsive Presentations.

An individual diagnosed with ADHD can have any one of the hundreds of combinations of these criteria.

If you know someone with ADHD, you know ONE person with ADHD. They all present differently although there are some commonalities.

Females with ADHD are reported to have fewer hyperactive/impulsive symptoms and more inattentive symptoms when compared with males with ADHD. Further, females with ADHD present more commonly with the inattentive presentation than do males.

Skogli, E. W., Teicher, M.H., Anderson, P.N. et al. BMC Psychiatry 12, 298 (2013)

Males and females with ADHD do not differ from each other in off-task behaviour, minor motor movements, or cognitive function and academic achievement.

However, females with ADHD are more likely than males with ADHD to be overlooked and under-diagnosed.

Who Can Diagnose ADHD?

A health professional who has training, experience, and expertise in diagnosis and treatment.

- General Practitioner, Pediatrician, Child and Adolescent Psychiatrist, Pediatric Neurologist
- Psychologists can diagnose and provide counselling but cannot prescribe or recommend medication.

There is no blood test, brain scan, or medical procedure that will determine that an individual has ADHD.

No single test, questionnaire, or source of information (parent or teacher) is sufficient for the accurate diagnosis of ADHD.

Current best practice in evaluating children for ADHD, as outlined by the National Association of School Psychologists, requires the use of multiple assessment methods and sources of information.

What is a comprehensive ADHD Assessment?

- Developmental/medical/family history of the individual.
- Analysis of formal behavioural assessment rating scale results provided by caregivers, teachers, and/or others who know the child/adult well.
- Direct observation (if possible).
- Review of school records and/or progress reports (if applicable).
- Determination of other comorbid mental health disorders, if any.
- Diagnosis – one of the three presentations should be specified as well as severity level (mild, moderate, severe).

Diagnostic Criteria of ADHD

Before arriving at an official diagnosis, symptoms must:

Considerations in Diagnosis

- Rule out vision or hearing problems.
- Medical problems may affect behaviour (medical exam).
- Comorbid mental health disorders (e.g., anxiety, depression, OCD, tic disorders)

What Can Look Like ADHD?

stress/trauma?

auditory processing issues?

anxiety/depression?

medical conditions?

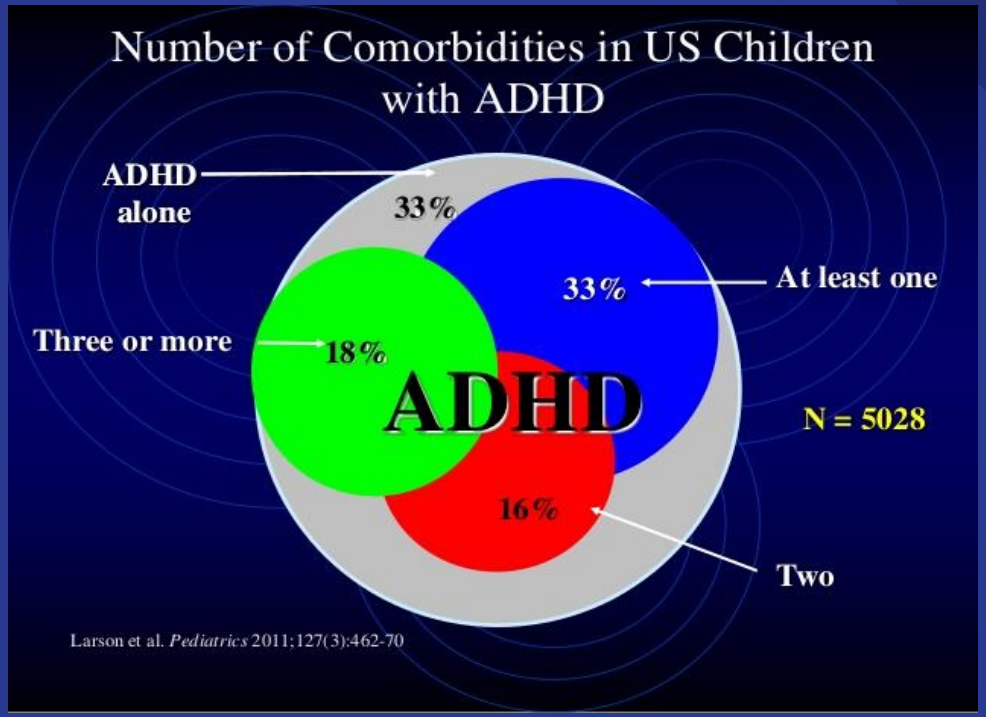
sensory integration problems?

visual perceptual difficulties?

sleep difficulties?

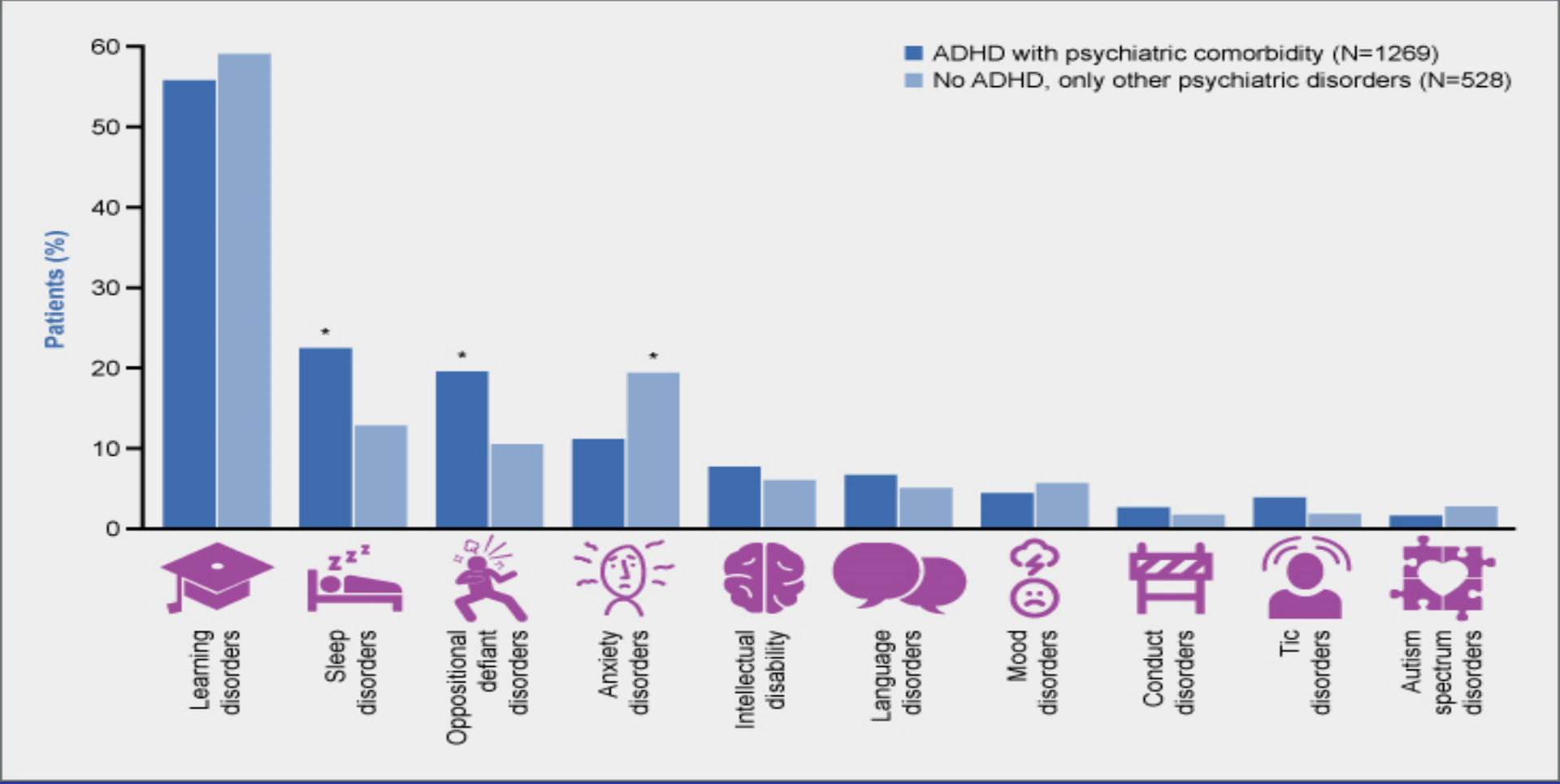
FASD? Autism?

We cannot simply assume that a person who is inattentive, impulsive, or hyperactive has ADHD.



A comorbidity is a co-existing or co-occurring mental health condition.

The individual has <u>two or more</u> diagnoses.



Psychiatric comorbidities in children and adolescents with and without ADHD (Reale L et al. Eur Child Adolesc Psychiatry 2017; 26: 1443-1457.) From: https://www.adhd-institute.com/burden-of-adhd/epidemiology/comorbidities/

Treatment for ADHD

A comprehensive approach to treatment for ADHD includes the following:

- Parent and child education about diagnosis and treatment
- Parent training in behavior management techniques and stress management
- Medication
- Child and family therapy to address personal and/or family stress concerns
- School programming and supports

Medication

- Parent/patient education should be the first line of defense in treatment and medication may also be included.
- It is always best to have an open and honest conversation with a family doctor or pediatrician when considering medication for ADHD.
- Do your research and ask questions
- Medication is a tool but it is not a magic wand. A small percentage of the population does not respond to medication.
- Pills don’t teach skills.
- Psychologists do not prescribe medication.

General Strengths of Individuals with ADHD

- Creative
- Sensitive and empathetic
- Witty and humorous
- Out-of-the-box thinkers
- Dreamers

RESOURCES

Still Want To Know More?

Learn Alberta Medical/Disability Information for teachers:
http://www.learnalberta.ca/content/inmdict/html/adhd.html

Teaching Students with ADHD: https://www.alberta.ca/diverse-learning-needs.aspx

Centre for ADD/ADHD Advocacy, Canada
Information for Educators on ADHD:
http://www.caddac.ca/cms/page.php?50
https://caddac.ca/adhd/2019/10/02/new-animated-kids-series/

Children and Adults with ADHD (CHADD)
https://chadd.org/for-educators/overview/

Additude: Inside the ADHD Mind (a very visually “busy” site so be prepared)
www.additudemag.com/category/parenting-adhd-kids/school-learning/for-teachers/

The Canadian ADHD Resource Alliance (CADDRA)
Information about medication by health professionals
www.caddra.ca

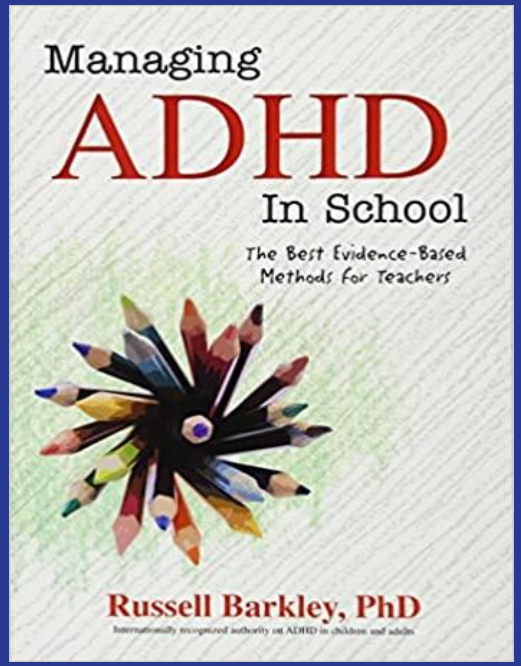
Dr. Russell Barkley: (ADHD clinician and researcher)
www.russellbarkley.com

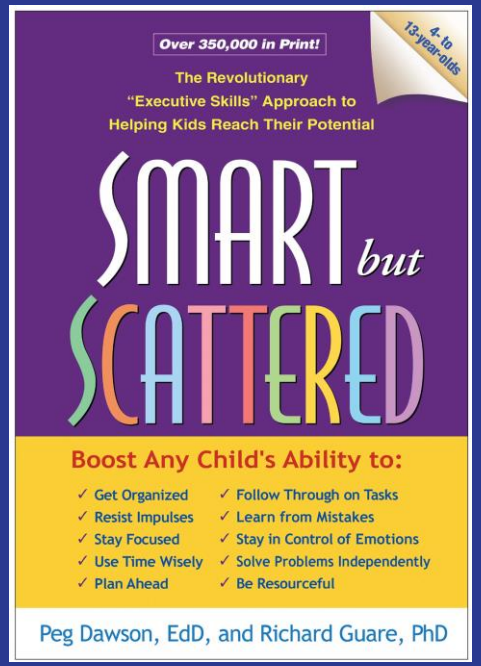
Dr. Peggy Dawson and Dr. Richard Guare (executive function)
https://www.smartbutscatteredkids.com/

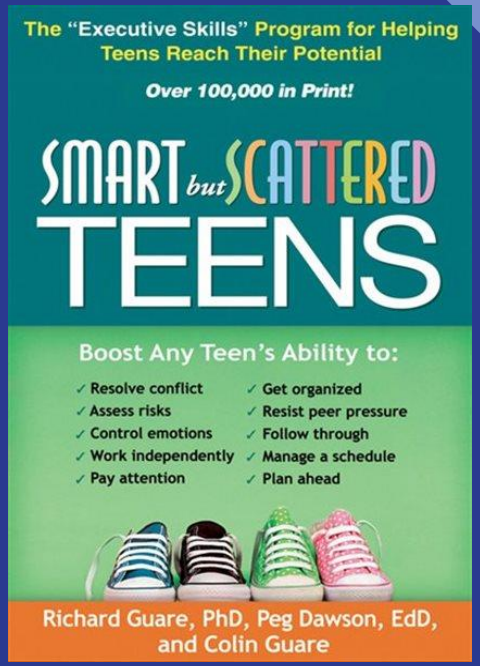
Dr. Thomas Brown (ADHD researcher)
https://www.brownadhdclinic.com/

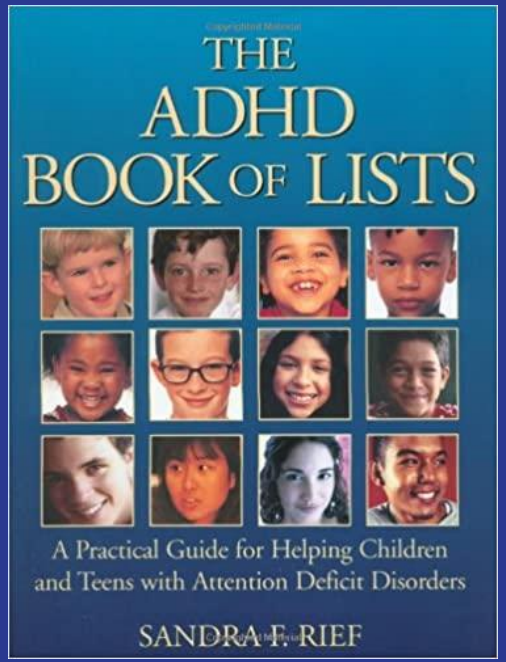
Dr. Stuart Shanker (self-regulation)
https://self-reg.ca/

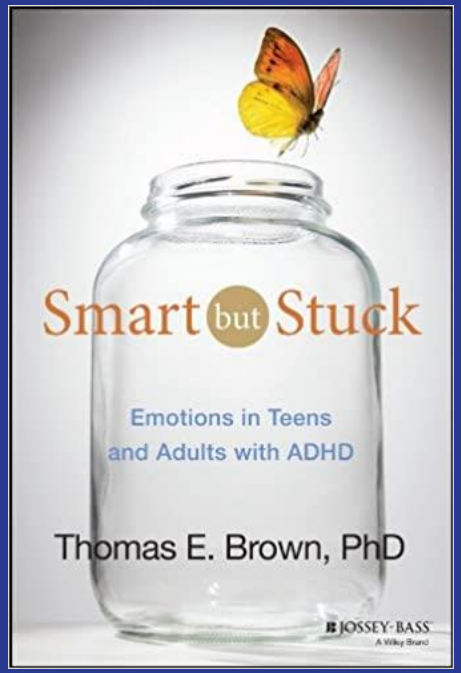
Books

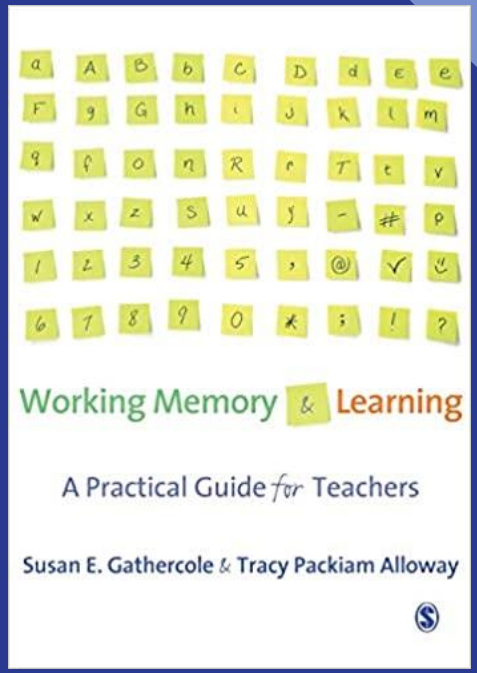

Managing
ADHD
In School
The Best Evidence-Based Methods for Teachers
Russell Barkley, PhD

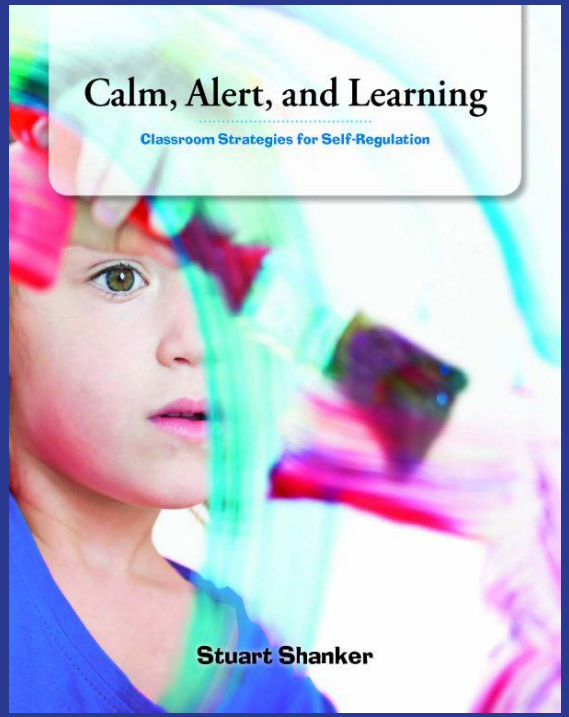

Over 350,000 in Print!
4- to 13-year-olds
The Revolutionary "Executive Skills" Approach to Helping Kids Reach Their Potential
SMART but SCATTERED
Boost Any Child's Ability to:
✓ Get Organized
✓ Resist Impulses
✓ Stay Focused
✓ Use Time Wisely
✓ Plan Ahead
✓ Follow Through on Tasks
✓ Learn from Mistakes
✓ Stay in Control of Emotions
✓ Solve Problems Independently
✓ Be Resourceful
Peg Dawson, EdD, and Richard Guare, PhD

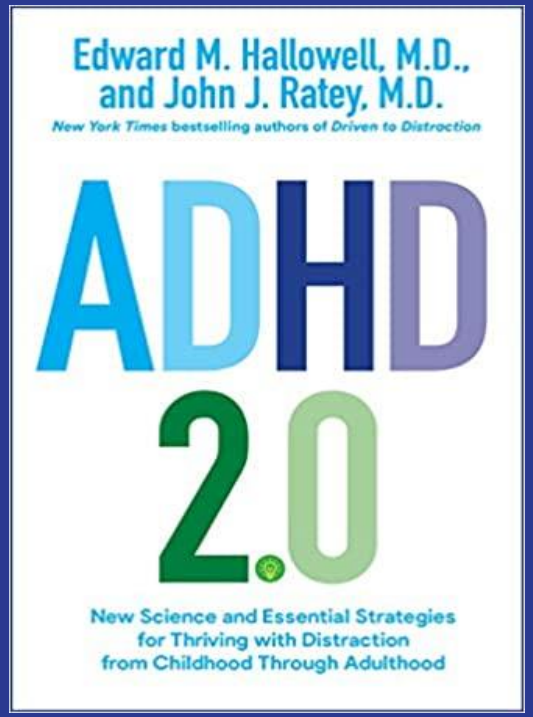

The "Executive Skills" Program for Helping Teens Reach Their Potential
Over 100,000 in Print!
SMART but SCATTERED TEENS
Boost Any Teen's Ability to:
✓ Resolve conflict
✓ Assess risks
✓ Control emotions
✓ Work independently
✓ Pay attention
✓ Get organized
✓ Resist peer pressure
✓ Follow through
✓ Manage a schedule
✓ Plan ahead
Richard Guare, PhD, Peg Dawson, EdD, and Colin Guare

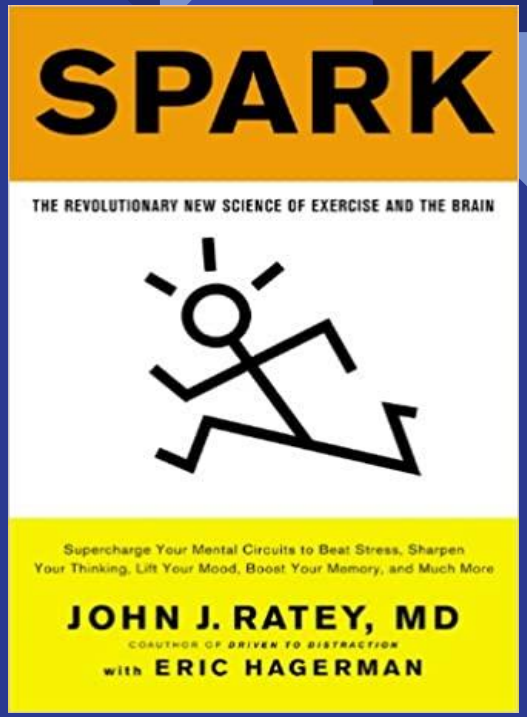

THE
ADHD
BOOK OF LISTS
A Practical Guide for Helping Children
and Teens with Attention Deficit Disorders
SANDRA F. RIEF


Smart but Stuck
Emotions in Teens
and Adults with ADHD
Thomas E. Brown, PhD
JOSSEY-BASS


Working Memory & Learning
A Practical Guide for Teachers
Susan E. Gathercole & Tracy Packiam Alloway


Calm, Alert, and Learning
Classroom Strategies for Self-Regulation
Stuart Shanker


Edward M. Hallowell, M.D., and John J. Ratey, M.D.
New York Times bestselling authors of Driven to Distraction
ADHD 2.0
New Science and Essential Strategies for Thriving with Distraction from Childhood Through Adulthood


SPARK
THE REVOLUTIONARY NEW SCIENCE OF EXERCISE AND THE BRAIN
Supercharge Your Mental Circuits to Beat Stress, Sharpen Your Thinking, Lift Your Mood, Boost Your Memory, and Much More
JOHN J. RATEY, MD
COAUTHOR OF DRIVEN TO DISTRACTION
with ERIC HAGERMAN

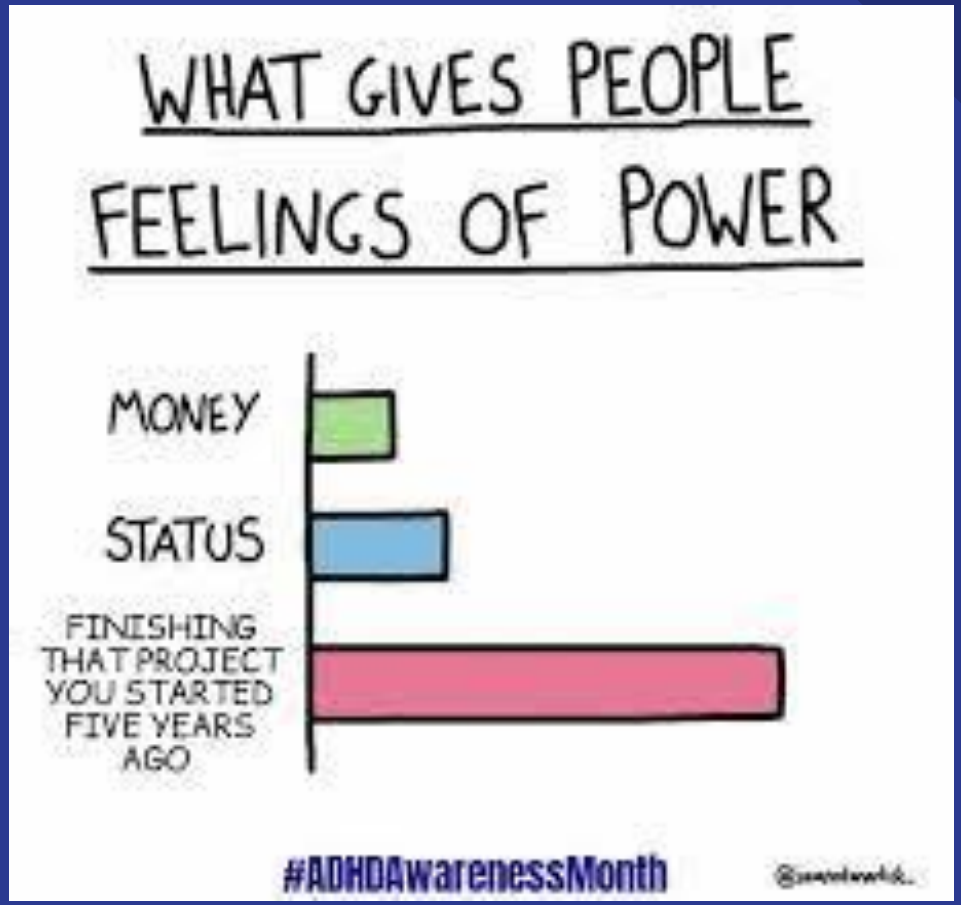
ADHD Association of Greater Edmonton

Parent support meetings - first Wednesday each month
7-9 PM (virtual)

Adult support meetings - third Wednesday each month
7-9 PM (virtual)

Young Adult support meetings – second Tuesday each month
7-9 PM (virtual)

Email: info@adhdedmonton.com
www.adhdedmonton.com


WHAT GIVES PEOPLE FEELINGS OF POWER
MONEY
STATUS
FINISHING THAT PROJECT YOU STARTED FIVE YEARS AGO
#ADHDAwarenessMonth

Questions?

Comments?