Screening, Diagnosis and Measurement Based Care in ADHD

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Current Practice in ADHD: Meet the Experts

September 12, 2025

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Why screen for ADHD?

SYSTEMATIC REVIEW OPEN

Check for updates

Prevalence of attention deficit hyperactivity disorder/ hyperkinetic disorder of pediatric and adult populations in clinical settings: a systematic review, meta-analysis and meta-regression

Simon Johnson[1], Eric Lim[2,3], Peter Jacoby[4], Stephen V. Faraone[5], Benjamin Minche Su[6], Marco Solmi[7,8,9,10], Benjamin Forrest[11], Bethany Furfaro[12], Kiri von Klier[13], Jenny Downs[4,14,20] and Wai Chen[13,15,16,17,18,19,20]✉

- Meta-analysis of 311 studies for inclusion (including 653,558 pediatric and 43,311 adult participants)
- Worldwide pooled prevalence of ADHD/HD in clinical settings for pediatrics was 32.4% (95%CI 31–34%)
- Pooled prevalence of adults in outpatient clinical settings21.4% (95% CI 20–23%).
- Consistent with multiple studies since first described by Dennis Cantwell in 1996

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Screening for ADHD in a general outpatient psychiatric sample of adults

Dara E. Babinski [a], Erika F.H. Saunders [a], Fan He [b], Duanping Liao [b], Amanda M. Pearl [a], Daniel A. Waschbusch [a]

- More than half of adults presenting for psychiatric care screened positive for ADHD.
- Only 11.93% of adults received a clinical diagnosis of ADHD.
- ADHD was uniquely associated with functional impairment.
- ADHD may be overlooked in adult psychiatric care.
- Assessment for ADHD in routine psychiatric care for adults should be prioritized.

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ADHD Matters

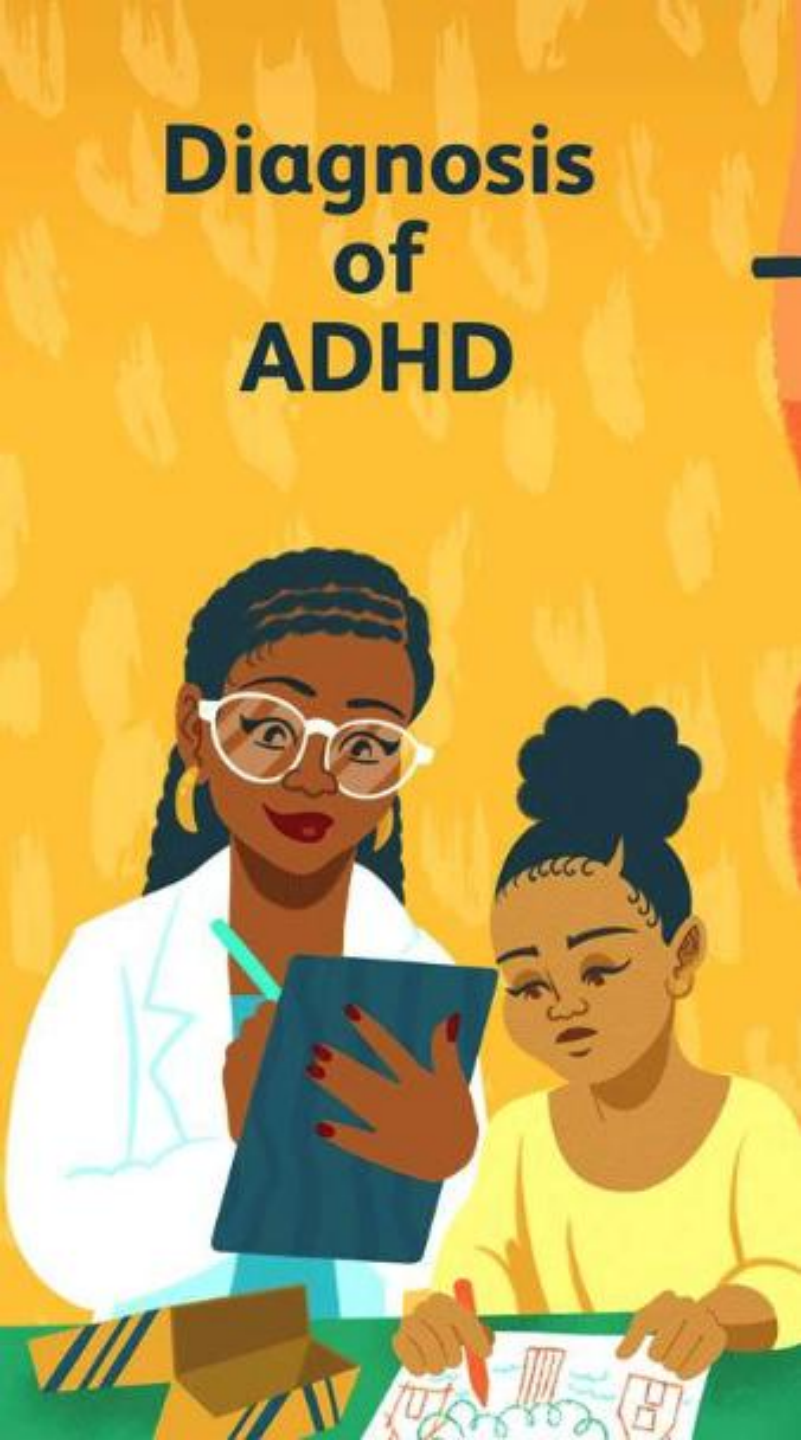
- In some studies, 40% of psychiatrists feel uncertain diagnosing ADHD Rafalovich, 2005
- ADHD causes functional, emotional, social, academic and occupational impairments.
- ADHD increases the risks for other psychiatric conditions Sobanksi, 2006
- Patients are more likely to attend mental health services for treatment of their comorbid conditions rather than their ADHD since the ADHD is chronic, and the comorbid condition may be acute.
- Treatment of comorbid conditions is less effective when the primary ADHD remains untreated. Ginsberg, 2014
- Co-treatment of both ADHD and comorbid conditions significantly improves outcomes versus treating comorbid conditions alone Barkley, 2008

Conclusion

- “ADHD prevalence in clinical populations is 8-9-fold higher than community estimates. With these patients at risk for many adverse outcomes, our findings underscore the critical importance of resource allocation for screening, diagnosing and treatment.”
- The implication for clinicians is that you have to screen for ADHD as part of clinical evaluation of all patients through the life cycle.
- The initial presentation is often for the comorbid complaint such as sleep, obesity, depression, anxiety, autism, behavior problems.
- Clinicians who are not trained in ADHD, treat what they know, rather than identifying and managing the ADHD.
- This is particularly true for adult psychiatry, and female patients who are not disruptive.
- ADHD can be BOTH over- and under- diagnosed.

From Screening to the Therapeutic Assessment: Clinical Care Points

- Assessment begins with the diagnostic interview.
- Assessment requires evaluation of development, health, comorbidity and differential diagnosis, ADHD specific symptoms in multiple settings including collateral informants, functional impairment.
- Of these, the most challenging is assessment of comorbidity.
- Measurement based care is critical to ADHD assessment and has to be integrated into the evaluation, ideally using a shared screen to provide patient education. This creates the ‘therapeutic assessment’. Psychoeducation is critical to care.



- Physical exam
- Developmental and health history
- Waxing and waning of symptoms with changes in challenges over deelopment
- Family history: perinatal factors,exposure, trauma, early deprivation, toxins
- Evaluation of deleterious consequences such as educational underachievement, unplanned pregnancies, drug use, driving, employment, extreme sports, problems with money management
- Collateral information on the patient, and evaluation of how the patient's impairment is affecting others.

ADHD IN CHILDREN

some common signs and symptoms

- Easily Distracted
- Daydreaming
- Forgetfulness
- Can't Sit Still
- Excessive Talking
- Careless Mistakes
- Risk-taking Behavior
- Impatience

TOP 10 INDICATORS OF ADHD HITHERTO UNDIAGNOSED IN ADULTS

IMPULSIVE BEHAVIOUR
Make risky decisions or do something on a "whim."

ADDICTION
Drug addiction, gambling and addiction to other illicit or risky behaviors.

INABILITY TO STAY FOCUSED
Trouble concentrating and making routine errors

NICOTINE DEPENDENCE
41% of adults with ADHD smoke.

RESTLESSNESS
Not able to "relax" on a vacation or "sit back and watch" a movie.

DAYDREAMING
Daydreaming during a meeting. lecture or a conversation.

LOSING THINGS ALL THE TIME
Frequently "forgetting" or "losing" things due to inattention.

YOU HAVE A CHILD WITH ADHD
Many parents learn they have ADHD after their kids are diagnosed.

BEING DIAGNOSED WITH ADHD AS A CHILD
Most kids with ADHD will continue to cope with it to a greater or lesser degree throughout their whole lives.

TROUBLE MAINTAINING RELATIONSHIPS
The divorce rate among couples touched by ADHD is as much as twice that of the general population.

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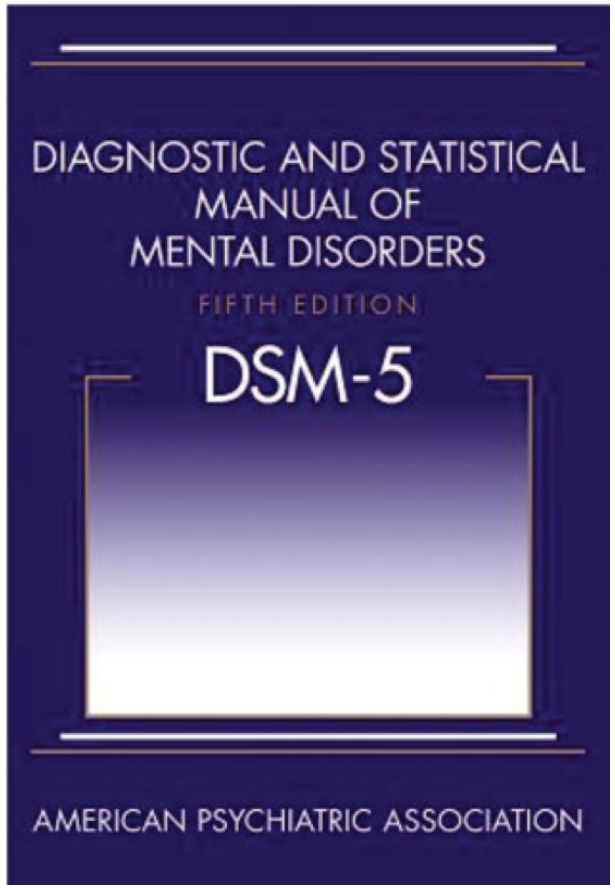
3 TYPES OF ADHD

ADHD Overview
SIGNS OF INATTENTION

CRITERIA A (CLUSTER A)



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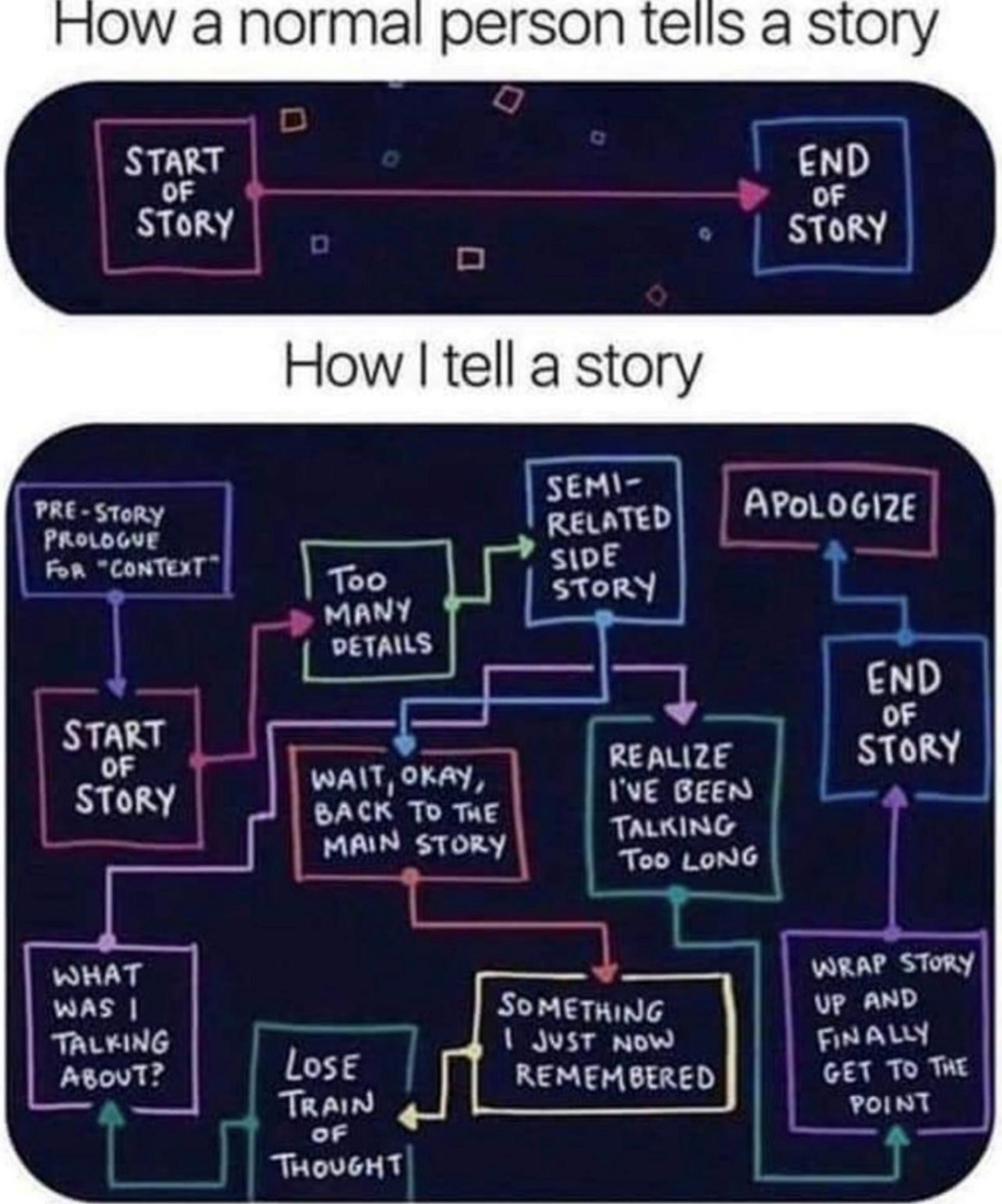
ADHD Overview
SIGNS OF HYPERACTIVITY-IMPULSIVITY

CRITERIA A (CLUSTER B)

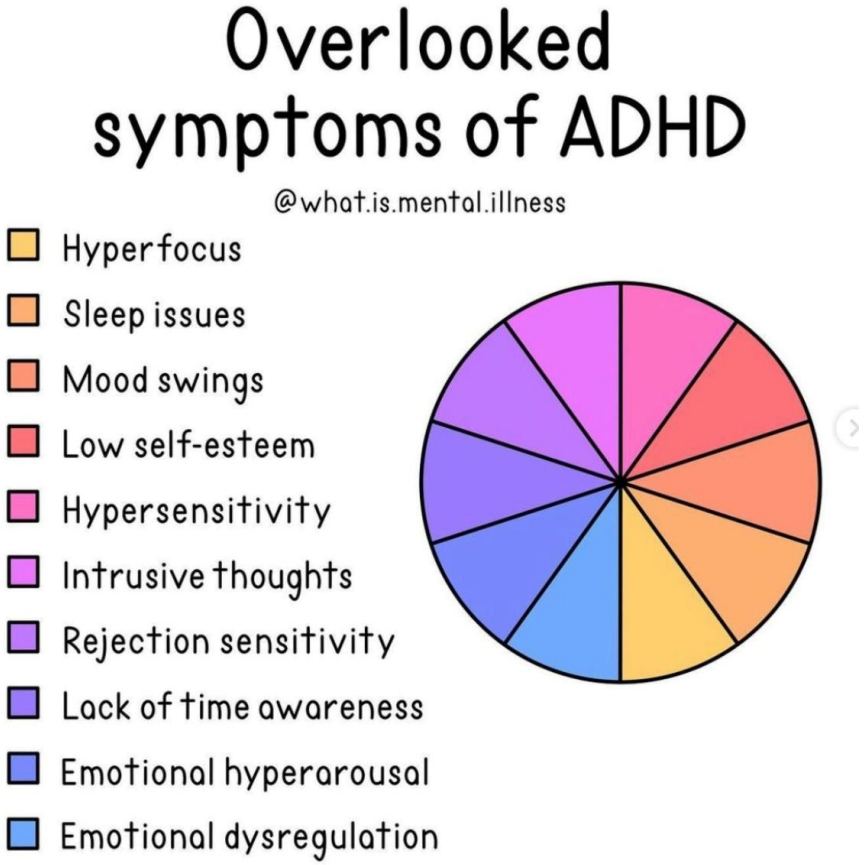
Developmental Interview: Challenges for Adult Clinicians

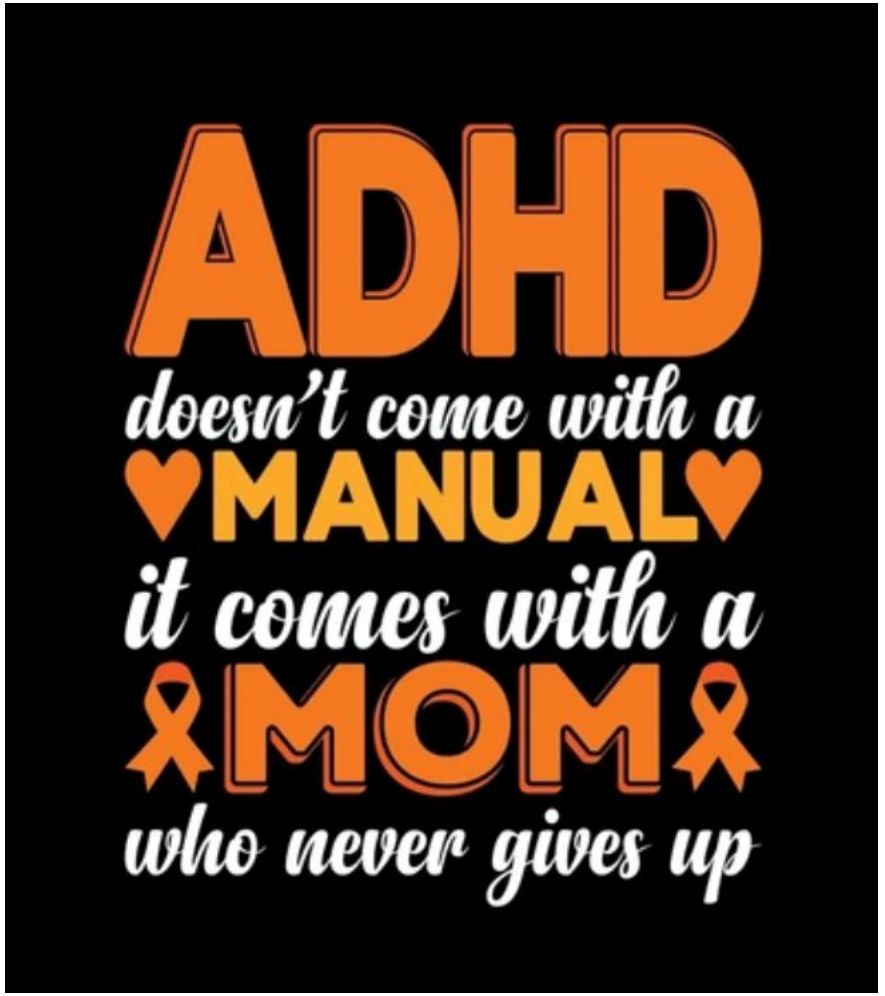
- Pregnancy – mother's health, substance use, baby's health
- Birth – time of birth (early, late), labour duration and complications
- Postnatal – health at birth, feeding and sleep challenges
- Milestones – motor (sitting, crawling, walking), speech (single words, sentences), adaptive functioning (toilet training, dressing).
- Early attention – sustaining play, sitting through a story
- Medical – hearing, vision, major medical challenges, feeding
- School – when did they start school/formal daycare?
- Social interactions – who did they interact with? What was the quality of interactions? Early friendships
- Behavioral concerns and early strategies



OBSERVATION

- ADHD Cognition: ADHD is associated with a particular cognitive style.
- Parent or partner holding the head to get eye contact and repeat back.
- The “Wender” sign.
- Pacing, leaving the room.
- Dreaming off…





Strength based assessment of ADHD will look at what the individual does well, coping strategies and supports.

Components of Measurement Based Care:

- A structured Diagnostic Interview if support is needed to collate all the components of the interview.
- Broad based measure of other diagnoses including developmental disorders in adults, conditions such as depression or anxiety that typically onset in adolescence.
- Evaluation of common co-presenting problems, especially emotional dysregulation, irritability, sleep and executive function.
- ADHD, ODD self report, teacher report, parent report or other collateral.
- Assessment of how symptoms are driving functional impairment.
- Re-evaluation of symptoms and functioning post treatment to identify residual symptoms and impairment requiring further treatment.

Structured Diagnostic Interviews: DIVA 5

- Diagnostic Interview for ADHD (DIVA-5) www.divacenter.eu
- 25 languages – greatly facilitated acceptance and comfort of assessment of ADHD
- Reviews ADHD symptoms in childhood, in adulthood, chronicity, lifetime impairments
- Versions: Adult, Child and Adolescence (5y-17y), DIVA-5-ID for evaluation of ADHD in intellectual disability, scored for DSM 5 and now developing a DIVA adapted to women.

ADHD Child Evaluation (ACE)
ADHD Adult Evaluation (ACE+)

- https://www.psychology-services.uk.com/ACE-and-ACE-plus
- 22 languages
- Online training
- Guide to DSM-5 and ICD-10 scoring
- Packaged with preassessment tools that can be completed in advance
- Each question comes with specific examples of how each symptom impacts behavior in the past and present

Challenges in Differential Diagnosis

- Difficult to distinguish ADHD (attention problems, disinhibition, lack of motivation) from secondary effects of substance use.
- ADHD is a risk factor for TBI, and TBI is a risk factor for ADHD
- ADHD is a risk factor for PTSD, and PTSD is a risk factor for ADHD
- ADHD is a risk factor for maltreatment, and maltreatment is a risk factor for ADHD
- Sex and gender minorities, non-white racial and ethnic groups, indigenous populations, individuals with disabilities, immigrants are more likely to be referred, and less likely to be diagnosed.
- Diagnostic criteria were developed based on males: girls and women are under-diagnosed.

Recent Changes in Recognition of ADHD

- Cognitive Disenagement Syndrome
- Recognition of new onset adult ADHD
- Understanding ADHD is a 24 hour disorder
- Recognition that a majority of individuals with ASD will have ADHD and that ASD is a common comorbid condition in ADHD

Diagnosis: Cognitive Disengagement Syndrome (Sluggish Cognitive Tempo)

- Barkley: sluggishness, daydreaming, lethargy, apathy, slowed behavior/thinking, confusion Barkley R, 2022
- 279 empirical studies in the last 10 years
- Systematic review measures of SCT, 76 studies show good psychometrics Becker 2021, 2020
- Recognized as a distinctive disorder, transdiagnostic with poor functional outcomes especially academics Becker S, 2022
- Responds to medications for ADHD with diminished response Wiggs, 2023
- Persistent and predictive Mayes SD 2023
- Learning engagement mediates relationship between SCT and later academic achievement in 782 Chinese high school students Wang Y, 2023
- Risk factor for internet addiction and internet gaming disorder Gul , 2023

Can Attention-Deficit/Hyperactivity Disorder Onset Occur in Adulthood?

Stephen V. Faraone, PhD; Joseph Biederman, MD

- In 2016 three population-based studies from New Zealand Moffitt TE, 2015, Brazil Caue A 2016 concluded that adult ADHD can arise de novo in adulthood
- Is Adult-Onset ADHD etiologically distinct from childhood ADHD?
- Sibley 2014 suggested that current symptoms of ADHD underreported where there is a childhood history, and overreported where there is no childhood history based on the MTA study

The Journal of Child Psychology and Psychiatry

Journal of Child Psychology and Psychiatry **:* (2022), pp **–** doi:10.1111/jcpp.13696

Annual Research Review: Perspectives on progress in ADHD science – from characterization to cause

Edmund J.S. Sonuga-Barke,[1,2] Stephen P. Becker,[3,4] Sven Bölte,[5,6] Francisco Xavier Castellanos,[7,8] Barbara Franke,[9] Jeffrey H. Newcorn,[10] Joel T. Nigg,[11] Luis Augusto Rohde,[12,13] and Emily Simonoff[1]

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The science of attention-deficit/hyperactivity disorder (ADHD) is motivated by a translational goal – the discovery and exploitation of knowledge about the nature of ADHD to the benefit of those individuals whose lives it affects. Over the past fifty years, scientific research has made enormous strides in characterizing the ADHD condition and in understanding its correlates and causes. However, the translation of these scientific insights into clinical benefits has been limited. In this review, we provide a selective and focused survey of the scientific field of ADHD, providing our personal perspectives on what constitutes the scientific consensus, important new leads to be highlighted, and the key outstanding questions to be addressed going forward. We cover two broad domains – *clinical characterization* and, *risk factors, causal processes and neuro-biological pathways*. Part one focuses on the developmental course of ADHD, co-occurring characteristics and conditions, and the functional impact of living with ADHD – including impairment, quality of life, and stigma. In part two, we explore genetic and environmental influences and putative mediating brain processes. In the final section, we reflect on the future of the ADHD construct in the light of cross-cutting scientific themes and recent conceptual reformulations that cast ADHD traits as part of a broader spectrum of neurodivergence. **Keywords:** ADHD; development; stigma; brain imaging; genetics.

Introduction: The changing face of attention-deficit/hyperactivity disorder science

Attention-deficit/hyperactivity disorder (ADHD), as currently formulated in diagnostic manuals (i.e., DSM-5 and ICD-11), represents the latest stage in a long history of attempts to characterize a cluster of overlapping early onset and persistent symptoms of hyperkinesis, inattention, and impulsiveness known to harm affected individual's lives through the functional impairment they create, both in the short and long term. These formulations describe, and thus implicitly conceptualize, ADHD as a singular, categorical entity with clear and definable boundaries both between disorder and nondisorder and between ADHD and other disorders, caused by dysfunction within the patient (Sonuga-Barke, 2020). This way of thinking about ADHD, although subject to minor adjustments in specific aspects of diagnostic criteria introduced following periodic review of available scientific evidence, has remained fundamentally unchanged for decades. However, during the same period enormous strides have been made in our scientific understanding of ADHD that appear to challenge core elements of this conceptual model by highlighting, for instance, its dimensionality, causal heterogeneity, and genetic and neuro-biological overlap with other conditions (Posner, Polanczyk, & Sonuga-Barke, 2020); characteristics known to be shared with other psychiatric and neuro-developmental conditions. These discoveries have led some to question how well the current diagnostic framework maps onto scientific findings about the underlying causal structure of the condition (e.g., Musser & Raiker, 2019). In this review, our goal is to take stock of the state of ADHD science; reviewing recent developments in light of past consensus while identifying key questions that need to be addressed going forward. The paper is presented in two major sections. The first focuses on *the characterization* of ADHD in terms of developmental course, correlated characteristics and traits and overlapping conditions, and its impact on the lives of affected

Conflict of interest statement: See Acknowledgements for full disclosures.

OUTLINE

- **The traditional view on ADHD trajectories**
- **The Late-onset trajectory**
- **Predicting trajectories**
- **The fluctuating trajectory**

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Neurodevelopmental disorders[1]

Definition:

The concept is fully described in the section of "Specific Disorders of Psychological Development" of the 10th edition of the International Classification of Diseases.
The operational criteria defining a neurodevelopmental disorder are:

- an impairment or delay in the development of functions that are strongly related to maturation of the central nervous system.
- a steady course that does not involve the remissions and relapses.
- an onset that is invariable during infancy or childhood.

Reference:
1. International Classification of Diseases - 10 edition (ICD-10), 1993.

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MTA findings!

Late-Onset ADHD Reconsidered With Comprehensive Repeated Assessments Between Ages 10 and 25

Margaret H. Sibley, Ph.D., Luis A. Rohde, M.D., James M. Swanson, Ph.D., Lily T. Hechtman, M.D., Brooke S.G. Molina, Ph.D., John T. Mitchell, Ph.D., L. Eugene Arnold, M.D., Arthur Caye, Traci M. Kennedy, Ph.D., Arunima Roy, Ph.D., Annamarie Stehli, M.P.H., for the Multimodal Treatment Study of Children with ADHD (MTA) Cooperative Group

Out of 238 LNCG cases who did not have ADHD at baseline, 37.8% (N=90) met DSM-5 symptom criteria for ADHD based on combined parent, teacher, and self-reports using an OR rule during at least one adolescent assessment (when participants were between the age of 12.0-17.99).

MTA Expert Panel Assessment - Exclusion:
- Impairment
- Pervasiveness
- Comorbidity

TABLE 2. Results of Stepped Procedure for Evaluating the Validity of Late-Onset ADHD Cases[a]

	Adolescent-Onset		Adult-Onset	
Result	N	%	N	%
Meets DSM-5 ADHD symptom criteria	96	40.2	47	19.7
Clinically significant impairment	32	13.4	40	16.7
Late-onset	21	8.8	24	10.0
Not due to substance abuse	18	7.5	10	4.1
Not attributable to other mental disorder	13	5.4	3	1.3
Cross-situational symptoms	6	2.5	2	0.8
Absence of subthreshold childhood symptoms (less than three childhood symptoms of inattention and hyperactivity/impulsivity)	3	1.3	2[b]	0.8

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Sibley et al., 2017

Age-of-onset: a long story…

Revisiting ADHD age-of-onset in adults: to what extent should we rely on the recall of childhood symptoms?

V. Breda[1,2], L. A. Rohde[2,3], A. M. B. Menezes[4], L. Anselmi[4], A. Caye[2], D. L. Rovaris[1,5], E. S. Vitola[1,2], C. H. D. Bau[1,5] and E. H. Grevet[1,2]

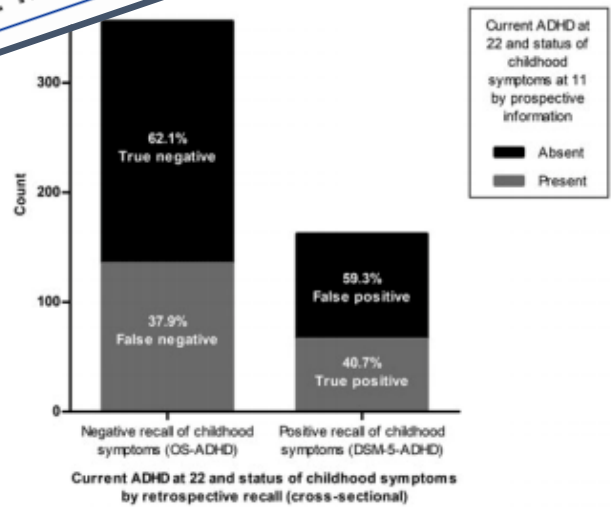

Fig. 1. Recall-based *versus* trajectory-based ADHD.

Background. ADHD diagnosis requires the presence of symptoms before the age of twelve. In clinical assessment of adults, the most frequent strategy to check this criterion is investigating self-report recall of symptoms, despite little evidence on the validity of this approach. We aim to evaluate the recall accuracy and factors associated with its reliability in a large population-based sample of adults.

Methods. Individuals from the 1993 Pelotas Birth Cohort were followed-up from childhood to adulthood. At the age of 22, 3810 individuals were assessed through structured interviews by trained psychologists regarding mental health outcomes, including ADHD diagnosis and ADHD symptoms in childhood. The retrospective recall was compared with available information on ADHD childhood symptoms at the age of eleven. We also assessed factors related to recall accuracy through multiple regression analyses.

Results. Self-reported recall of childhood symptoms at 22 years of age had an accuracy of only 55.4%, with sensitivity of 32.8% and positive predictive value of 40.7%. Current inattention symptoms were associated with lower risk and social phobia with higher risk for false-positive endorsement, while higher levels of schooling correlated with lower risk and male gender with higher risk for false-negative endorsement.

Conclusions. Clinicians treating male patients with social phobia and ADHD symptoms should assess even more carefully retrospective recall of ADHD childhood symptoms. Moreover, characteristics associated with recall improvement do not impact accuracy robustly. In this context, the recall of childhood ADHD symptoms seems an unreliable method to characterize the neurodevelopmental trajectory in adults with currently-impairing ADHD symptomatology.

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ADHD and Autism Spectrum Disorder

- Co-occurring traits in population samples, family and genetic studies.
- Youth diagnosed with ADHD are diagnosed with ASD 2 years later
- 40 – 70% comorbidity
- Both disorders show difficulty with social interactions, executive function
- 21% of ADHD sample had ASD and the two conditions were difficult to differentiate Grzadzinski R, 2016
- RUPP study 50% response to MPH (ES .2 - .5) in children with ADHD/ASD[2005]
- Diminished response to ATX Hafterkamp 2012
- Responsive to guanfacine Scahill 2015
- 30 – 80% of youth with ASD have ADHD

Hours C, Recasens C, Baleyte JM. ASD and ADHD comorbidity: what are we talking about? *Front Psychiatry*. 2022;13:837424.

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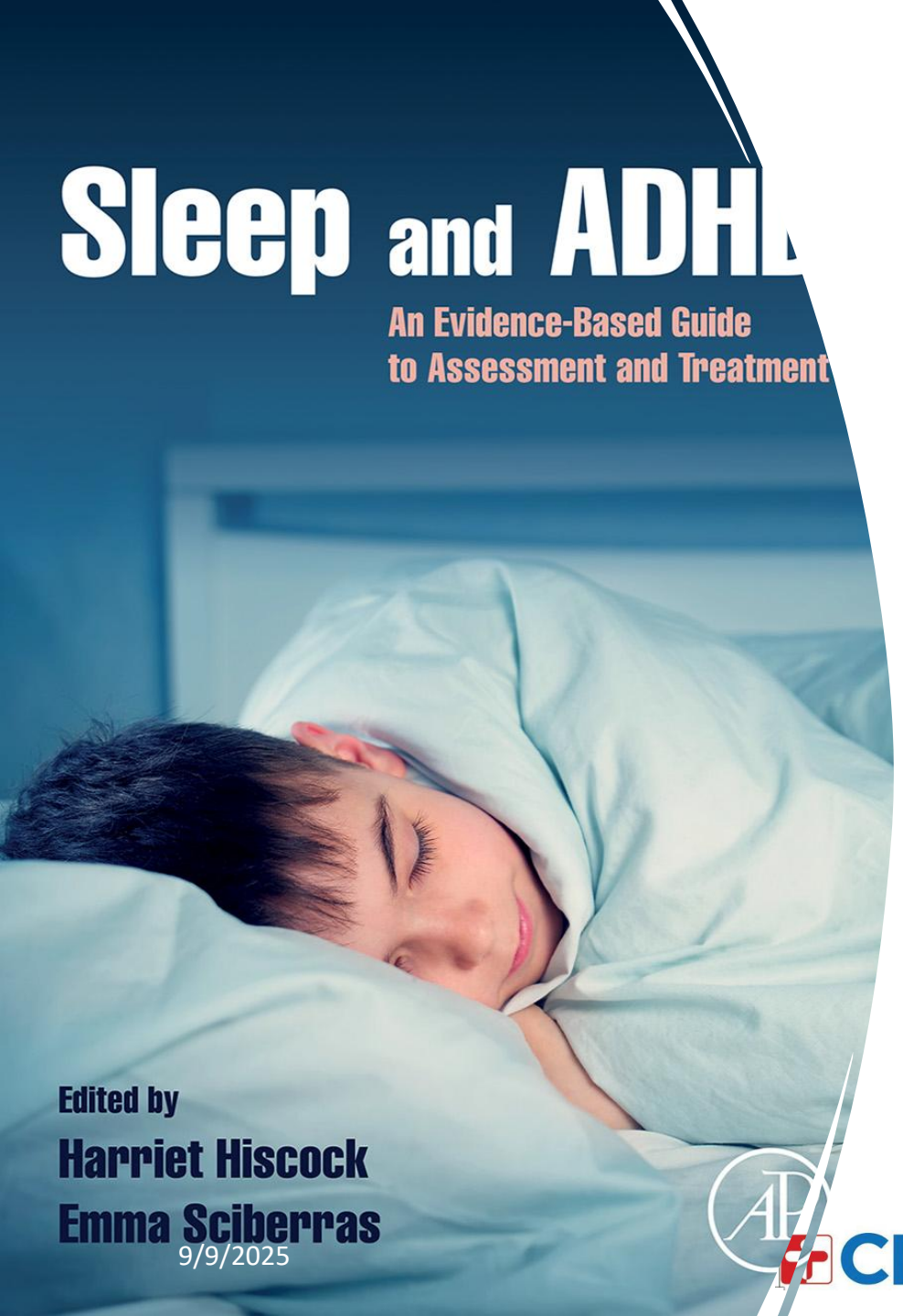

ADHD: A 24 Hour Disorder

- Meta-analysis: children with ADHD have greater sleep disturbances on subjective and objective measures

Cortese 2009, 2015 Corkum 1998, Sung 2008, Lycett 2014, Diaz Roman 2016

- Adolescents (N=302) with ADHD 6.2 times greater parent reported sleep disturbance, and abnormal actigraphy[Becker, 2019]
- ADHD associated with subjective and objective sleep impairment in adults[Surman 2009, Philipsen 2005, Diaz Roman 2018]
- Sleep disorders associated with ADHD: insomnia, chronotype (eveningness)[Coogan 2017], delayed sleep phase, periodic limb movement, restless legs, sleep disordered breathing, bruxism

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Measurement Based Care Critical to Assessment and Evaluation of Outcome

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Screening

- Screening can be a routine part of any clinical interview:
  - Have you ever felt you had difficulty paying attention?
  - Have people complained that you were or are hyper?
  - Do you do things before you think about what you are doing?
- The most effective way to screen for ADHD is by including a broad-based rating scale as part of every new evaluation.
- Broad based screening as a routine part of all clinical assessment is the only way to assure identification of ADHD in patients where the clinician does not suspect it and the patient does not have insight.

From Screening to Diagnosis

- Screening is appropriate for all clinic patients, and patients at high risk of ADHD: other psychiatric illness, developmental difficulties, sleep or obesity, substance use, learning difficulty, repeated accidents, TBI, epilepsy..
- Universal screening is recommended in college student disability services, substance treatment cenetrers, prisons, obesity and sleep clinics, TBI, epilepsy and neuropsychiatric settings.

Broad Based Screening Measures: Strengths and Difficulties Questionnaire (SDQ)

Five Domains

1. emotional problems
2. conduct problems
3. hyperactivity
4. peer problems
5. prosocial scale

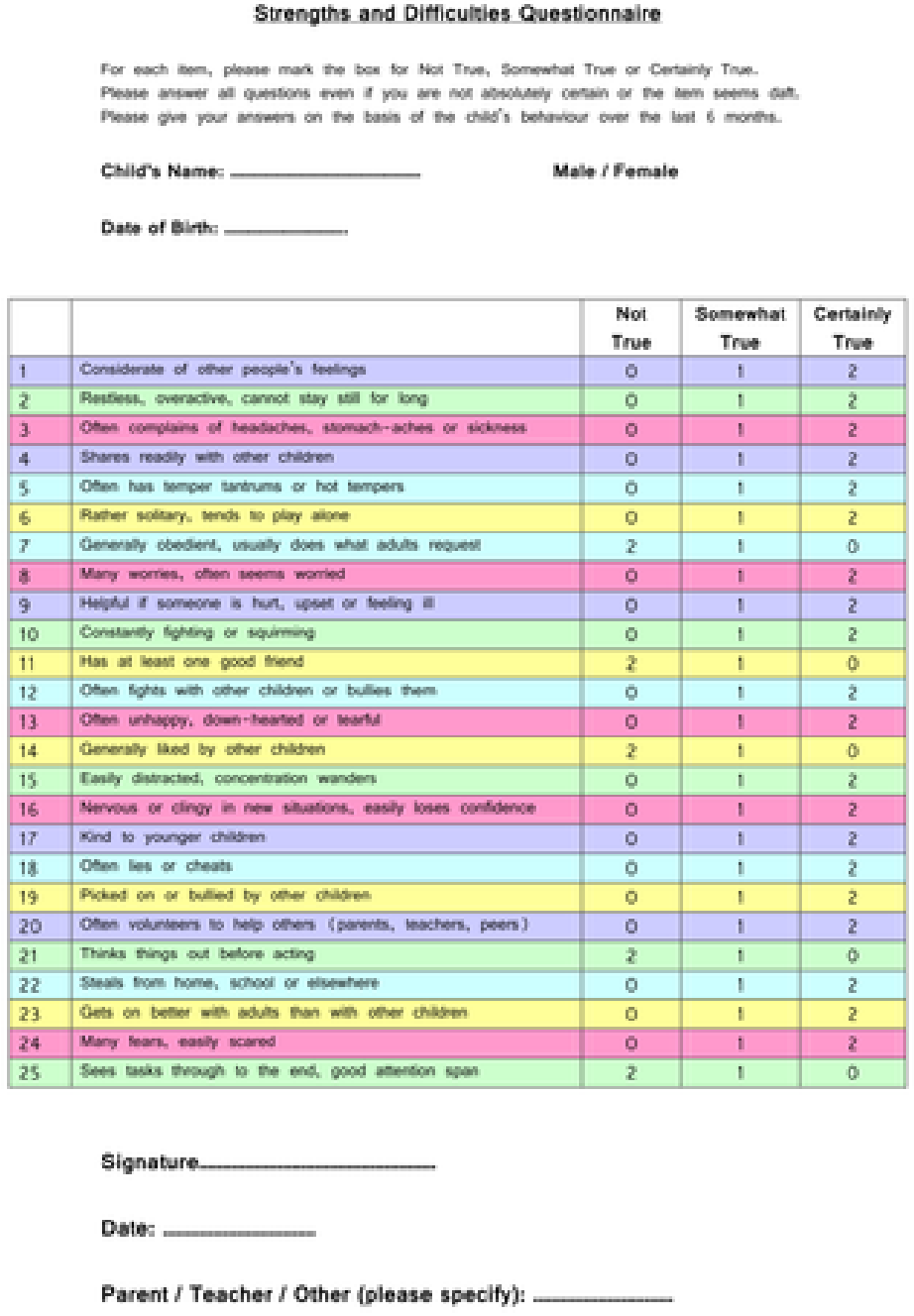
- In the public domain
- Translated into 75 languages
- > 5000 publications in more than 100 countries
- Extensive population norms normed for all ages and gender
- Self report, collateral report, and teacher report
- Impact module looking at impact of symptoms on well being
- Short, easy, patient friendly.

SDQ

https://www.sdqinfo.org

https://sdqscore.org

- Short and easy
- Population norms are much more accurate than categorical measures
- Age 2 through adulthood
- two attention items, two hyperactive items, and one impulsive item
- Electronic or paper scoring



Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True.
Please answer all questions even if you are not absolutely certain or the item seems daft.
Please give your answers on the basis of the child's behaviour over the last 6 months.

Child's Name: _____ Male / Female

Date of Birth: _____

		Not True	Somewhat True	Certainly True
1	Considerate of other people's feelings	0	1	2
2	Restless, overactive, cannot stay still for long	0	1	2
3	Often complains of headaches, stomach-aches or sickness	0	1	2
4	Shares readily with other children	0	1	2
5	Often has temper tantrums or hot tempers	0	1	2
6	Rather solitary, tends to play alone	0	1	2
7	Generally obedient, usually does what adults request	2	1	0
8	Many worries, often seems worried	0	1	2
9	Helpful if someone is hurt, upset or feeling ill	0	1	2
10	Constantly fidgeting or squirming	0	1	2
11	Has at least one good friend	2	1	0
12	Often fights with other children or bullies them	0	1	2
13	Often unhappy, down-hearted or tearful	0	1	2
14	Generally liked by other children	2	1	0
15	Easily distracted, concentration wanders	0	1	2
16	Nervous or clingy in new situations, easily loses confidence	0	1	2
17	Kind to younger children	0	1	2
18	Often lies or cheats	0	1	2
19	Picked on or bullied by other children	0	1	2
20	Often volunteers to help others (parents, teachers, peers)	0	1	2
21	Thinks things out before acting	2	1	0
22	Steals from home, school or elsewhere	0	1	2
23	Gets on better with adults than with other children	0	1	2
24	Many fears, easily scared	0	1	2
25	Sees tasks through to the end, good attention span	2	1	0

Signature_____

Date: _____

Parent / Teacher / Other (please specify): _____

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Dimensional Psychological Measures

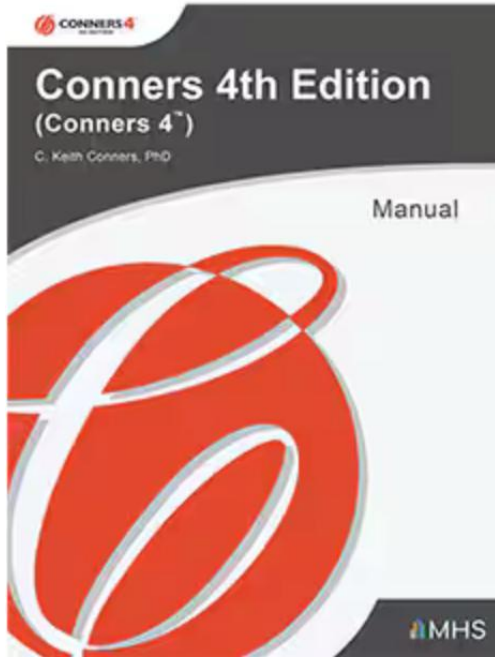
- BASC-3 (Behavior Assessment System for Children, 3rd Edition)
  - measures the behavioral and emotional strengths and weaknesses of children and adolescents
- Achenbach – all ages (https://aseba.org)
  - ASEBA assesses competencies, strengths, adaptive functioning, and behavioral, emotional, and social problems from age 1½ to over 90 years
- Conners 4:
  - age 6 – 18, short and long form
  - ADHD Index per DSM-5
  - Parent, Teacher, Self versions
  - Can be scored digitally.
  - Spanish and French

BASC™ 3

Behavioral Assessment System for Children, Third Edition

ASEBA

Achenbach System of Empirically Based Assessment



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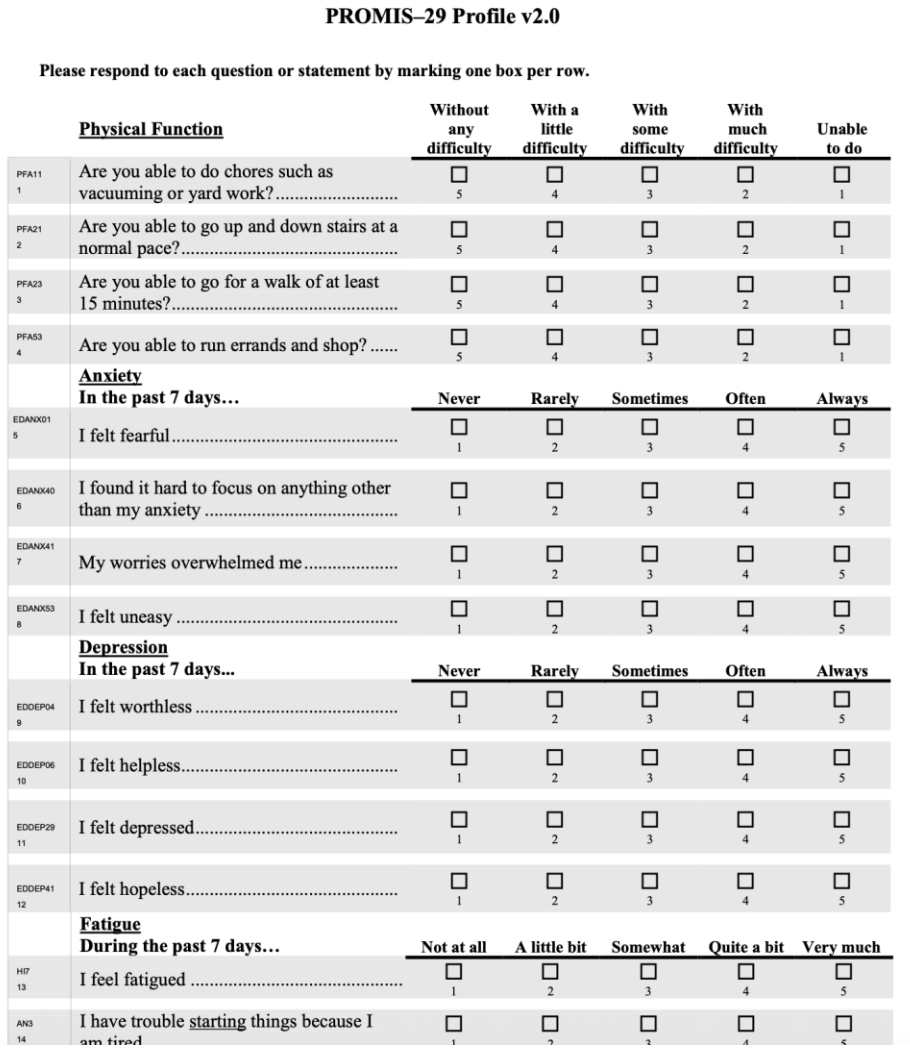
American Psychiatric Association: "Emerging Measures" - PROMIS

- The APA is recognizing the need for broad based DSM 5 screening
- DSM-5 Parent/Guardian-Rated Level 1 Cross-Cutting Symptom Measure—Child Age 6–17
- DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Adult
- Depression, anger, irritability, mania, anxiety, somatic symptoms, inattention, suicidal ideation, psychosis, sleep, repetitive thoughts and behaviors, substance use.
- Not validated, no age and gender norms, translations, difficulty scoring.



PROMIS–29 Profile v2.0

Please respond to each question or statement by marking one box per row.

	Physical Function	**Without any difficulty**	**With a little difficulty**	**With some difficulty**	**With much difficulty**	**Unable to do**
PFA11 1	Are you able to do chores such as vacuuming or yard work?	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
PFA21 2	Are you able to go up and down stairs at a normal pace?	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
PFA23 3	Are you able to go for a walk of at least 15 minutes?	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
PFA53 4	Are you able to run errands and shop?	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
	Anxiety **In the past 7 days…**	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
EDANX01 5	I felt fearful	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
EDANX40 6	I found it hard to focus on anything other than my anxiety	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
EDANX41 7	My worries overwhelmed me	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
EDANX53 8	I felt uneasy	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Depression **In the past 7 days...**	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
EDDEP04 9	I felt worthless	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
EDDEP06 10	I felt helpless	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
EDDEP29 11	I felt depressed	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
EDDEP41 12	I felt hopeless	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Fatigue **During the past 7 days…**	**Not at all**	**A little bit**	**Somewhat**	**Quite a bit**	**Very much**
HI7 13	I feel fatigued	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
AN3 14	I have trouble starting things because I am tired	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

www.psychiatry.org

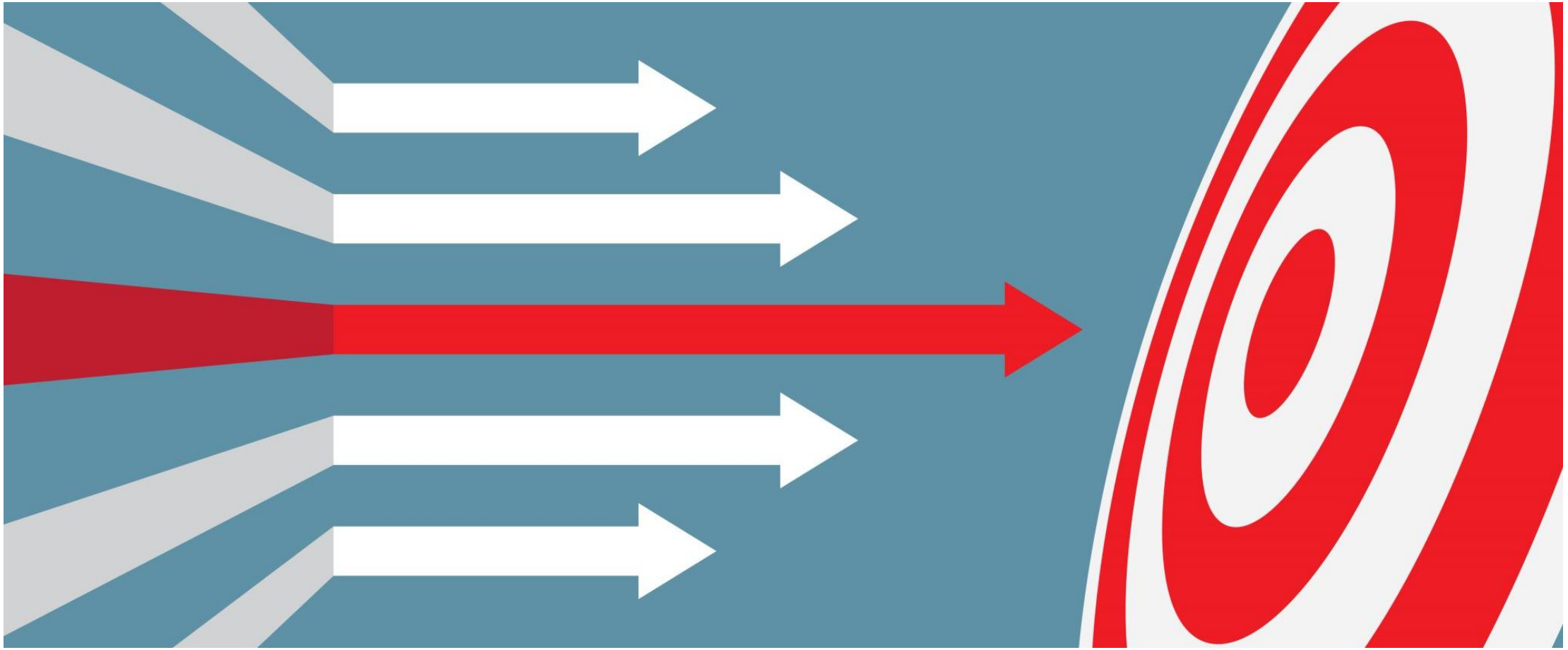
Computerized Adaptive Testing

- Adaptive Testing Technologies https://adaptivetestingtechnologies.com/team
- Assessment Systems Corporation https://assess.com/about-assessment-systems
- uses artificial intelligence, so that as the subject answers questions, the test selects from a large data bank of questions those items that are most relevant to that patient
- Kiddie-Computerized Adaptive Testing (K-CAT) and Computerized Adaptive Testing (CAT) take 7 minutes to complete using multidimensional item response theory to measure complex conditions like depression, anxiety, and suicidality, and can be administered remotely via internet-connected devices. Accuracy is comparable to standardized diagnostic interviews.

Weiss Symptom Record II

- Single form for self and collateral report allow comparison between informants and change over time
- Age 6 to adulthood
- Freely available in the public domain at caddra.ca and on the web as a fillable
- DSM 5 based evaluation of: The WSR-II includes a total of 123 items divided into 19 subscales, each of which assesses a different cluster of symptoms, including: attention, hyperactivity, impulsivity, oppositional, development and learning, autism, motor diosrders, psychosis, depression, mood regulation, suicide, anxiety, stress related disorers, PTSD, sleep, eating, condut, substance use, addictions, personality

Targeted Specific Screening for ADHD in Children



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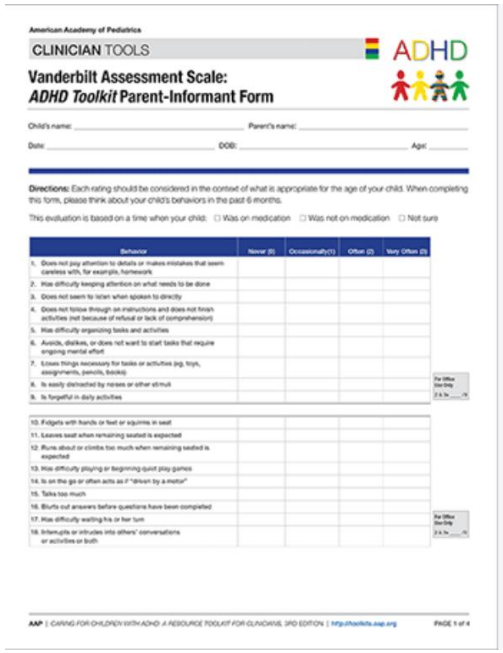
ADHD Screening Measures

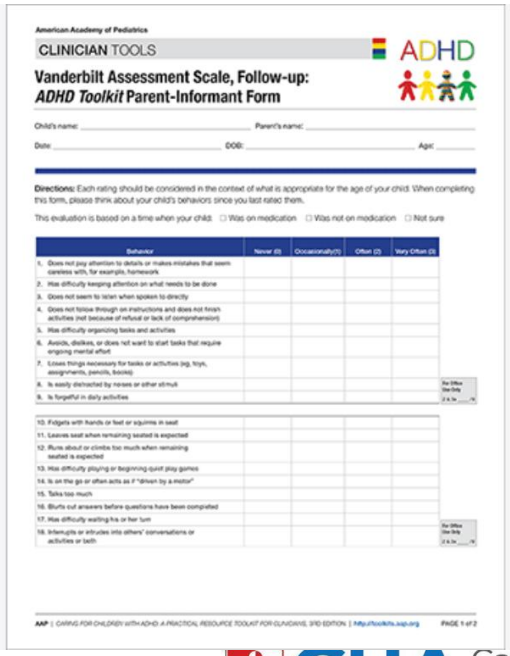
NICHQ
National Institute for Children's Health Quality

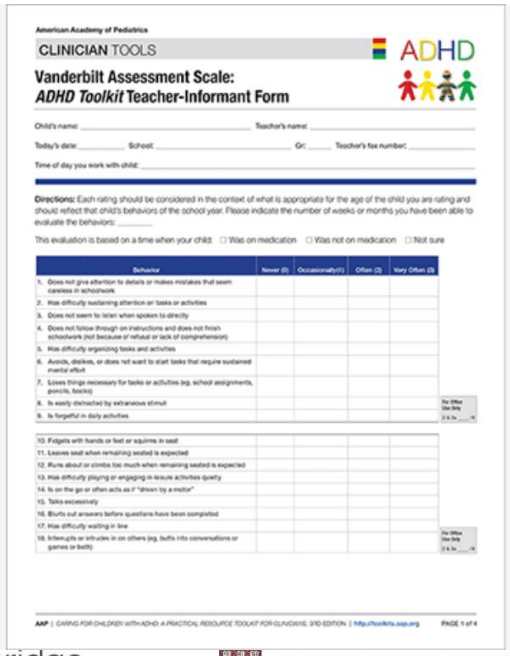
NICHQ Vanderbilt Assessment Scales

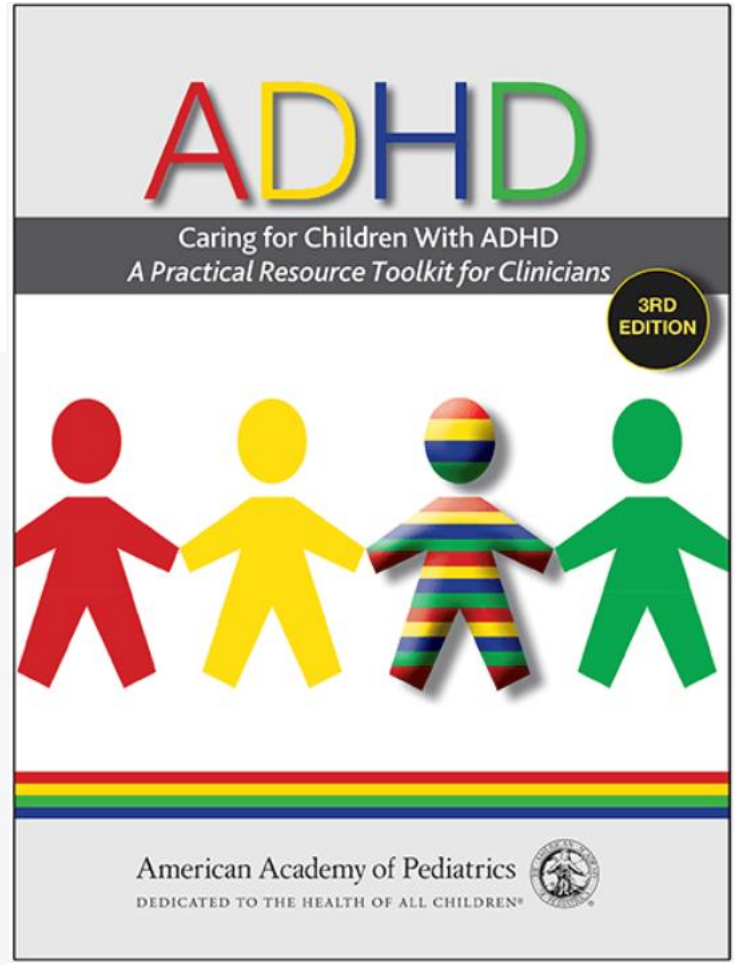
Used for diagnosing ADHD

3rd edition 2019


American Academy of Pediatrics
CLINICIAN TOOLS ADHD
Vanderbilt Assessment Scale:
ADHD Toolkit Parent-Informant Form


American Academy of Pediatrics
CLINICIAN TOOLS ADHD
Vanderbilt Assessment Scale, Follow-up:
ADHD Toolkit Parent-Informant Form


American Academy of Pediatrics
CLINICIAN TOOLS ADHD
Vanderbilt Assessment Scale:
ADHD Toolkit Teacher-Informant Form



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SNAP: Swanson, Nolan and Pelham

- The only scale in the public domain that has age and gender norms
- There is a wide discrepancy between age and genders – a level of hyperactive behavior that is appropriate for a male toddler would be a clinical concern in a female adolescent.
- The makes categorical scoring problematic.
- Translated into many languages.
- Later developed by Jim Swanson into the The Strengths and Weakness of ADHD Symptoms and Normal Behavior consisting of 30 items measuring the full range of attention and behavior deficits and strengths with excellent psychometric properties.

Brites C, Salgado-Azoni CA, Ferreira TL, et al. Development and applications of the SWAN rating scale for assessment of attention deficit hyperactivity disorder: a literature review. Braz J Med Biol Res 2015;48(11):965–72.

Lai KY, Leung PW, Luk ES, et al. Validation of the Chinese strengths and weaknessesof ADHD-symptoms and normal-behaviors questionnaire in Hong Kong.J Atten Disord 2013;17(3):194–202.

ADHD Rating Scale 5

- ADHD specific- 18 items (DSM-V criteria)
- ADHD symptoms and severity in context of functional impairment domains
  - relationships with significant others & peers
  - academic functioning,
  - behavioral functioning
  - homework performance
  - self-esteem
- Used for diagnosis & assessing treatment outcome
- Proprietary, but can photocopy once purchased
- https://www.guilford.com/books/ADHD-Rating-Scale-5-for-Children-and-Adolescents/DuPaul-Power-Anastopoulos-Reid/9781462524877

Screening of ADHD in Adults: Adult Self Report Rating Scale (ASRS-5)

- www.hcp.med.harvard.edu/ncs/asrs.php
- Available free of charge in 20 languages
- Major impact in improving access and care for ADHD in adults
- 6 screening questions
- Sensitivity and specificity well established for the 6 and 18 items
- Does not group items by domain

Adult ADHD Self-Report Scale v1.1 (ASRS)

Instructions:

Please answer the questions below, rating yourself on each of the criteria shown. As you answer each question, select the box that best describes how you have felt and conducted yourself over the past 6 months.

		Never	Rarely	Sometimes	Often	Very Often
1	PART A - How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?	0	0	1	1	1
2	How often do you have difficulty getting things in order when you have to do a task that requires organisation?	0	0	1	1	1
3	How often do you have problems remembering appointments or obligations?	0	0	1	1	1
4	When you have a task that requires a lot of thought, how often do you avoid or delay getting started?	0	0	0	1	1
5	How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?	0	0	0	1	1
6	How often do you feel overly active and compelled to do things, like you were driven by a motor?	0	0	0	1	1
7	PART B - How often do you make careless mistakes when you have to work on a boring or difficult project?	0	0	0	1	1
8	How often do you have difficulty keeping your attention when you are doing boring or repetitive work?	0	0	0	1	1
9	How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?	0	0	1	1	1
10	How often do you misplace or have difficulty finding things at home or at work?	0	0	0	1	1
11	How often are you distracted by activity or noise around you?	0	0	0	1	1
12	How often do you leave your seat in meetings or other situations in which you are expected to remain seated?	0	0	1	1	1
13	How often do you feel restless or fidgety?	0	0	0	1	1
14	How often do you have difficulty unwinding and relaxing when you have time to yourself?	0	0	0	1	1
15	How often do you find yourself talking too much when you are in social situations?	0	0	0	1	1
16	When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?	0	0	1	1	1

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Beyond Core Symptoms

- Diagnostic evaluation is a reflection of the clinician perspective: “What disorder(s) am I treating?”
- The patient perspective is typically based on functional impairment: “I have a problem with….”
- Symptoms and functioning are only moderately correlated.
- 95% of studies included symptom outcomes Hoagwood, 2012
- Real life outcomes requires assessment of whether the *patient* improved Coghill DR, 2019; 2021 in order to determine if further intervention is needed.
- Symptoms in the absence of impairment do not necessarily require treatment.

Measures of Functional Impairment

- Impairment Rating Scale (IRS) and the Brief Impairment Scale are short, reliable measures of function sensitive to change with treatment.
- The IRS has a teacher version.
- Barkley Functional Impairment Scale is age and gender normed – but measures disability over 6 months and is not sensitive to change.

Conceptual review of measuring functional impairment: findings from the Weiss Functional Impairment Rating Scale

Margaret D Weiss [1], Nicole Michelle McBride [1], Stephanie Craig [2,3], Peter J

- Self Report and Parent Report
- Widely used in all age groups
- 85 publications, translated into 23 languages
- Extensive psychometric validation
- Sensitive to change because it rates impact of symptoms on function.
- Domain specific evaluation of family, risk, school learning, school behavior, work, self-concept, social and life-skills setting a baseline for targeted treatment

Weiss Functional Impairment Rating Scale – Self-Report (WFIRS-S)

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Patient Name _____ Date _____ Age _____

Sex: ☐ Male ☐ Female

GENERAL INFORMATION	Yes	No	N/A
Do you have at least monthly contact with your family?	☐	☐	☐
Do you spend time weekly with other people?	☐	☐	☐
Do you live alone?	☐	☐	☐
Have you been employed in the last year?	☐	☐	☐
Have you been in school in the last year?	☐	☐	☐

Circle the number for the rating that best describes how your emotional or behavioural problems have affected each item in the last month.

A. HOME — How have your emotional or behavioural symptoms affected...	Never or Not at All	Sometimes or Somewhat	Often or Much	Very Often or Very Much	Not Applicable
1. family relationships	0	1	2	3	☐
2. dependency on other people	0	1	2	3	☐
3. the well being of members of your family	0	1	2	3	☐
4. fighting in the family	0	1	2	3	☐
5. ability for the family to socialize	0	1	2	3	☐
6. your ability to look after others	0	1	2	3	☐
7. balancing the needs of all family members	0	1	2	3	☐
8. your ability to "keep cool" or refrain from rages	0	1	2	3	☐

B. YOUR SELF-CONCEPT — How have your emotional or behavioural symptoms affected...					
1. whether you like yourself	0	1	2	3	☐
2. whether you feel competent	0	1	2	3	☐
3. your ability to have fun and enjoy yourself	0	1	2	3	☐
4. your general satisfaction with life	0	1	2	3	☐

C. LEARNING & WORK — How have your emotional or behavioural symptoms affected...					
1. your ability to perform well at work or school	0	1	2	3	☐
2. your productivity and efficiency at work or in school	0	1	2	3	☐
3. your ability to maintain stable employment	0	1	2	3	☐
4. getting fired from work or being asked to leave school	0	1	2	3	☐
5. receiving reprimands from people in authority	0	1	2	3	☐
6. the effectiveness of people around you	0	1	2	3	☐
7. your attendance at work or school	0	1	2	3	☐
8. your ability to take in new information	0	1	2	3	☐
9. your capacity to work at your potential	0	1	2	3	☐
10. your income or how much money you make	0	1	2	3	☐
11. being demoted at work or failing courses at school	0	1	2	3	☐
12. your competence as measured by evaluations	0	1	2	3	☐

D. ACTIVITIES OF DAILY LIVING — How have your emotional or behavioural symptoms affected...					
1. excessive use of computer or video games, internet, messaging, chat groups, etc.	0	1	2	3	☐
2. being clumsy or accident prone	0	1	2	3	☐
3. personal hygiene (bathing,hair, teeth, nails)	0	1	2	3	☐
4. seeing your doctor/dentist regularly	0	1	2	3	☐
5. your ability to get ready in the morning	0	1	2	3	☐
6. your ability to get to bed	0	1	2	3	☐
7. your sleeping habits	0	1	2	3	☐
8. your eating habits	0	1	2	3	☐
9. shopping	0	1	2	3	☐
10. chores	0	1	2	3	☐
11. tidiness and being organized	0	1	2	3	☐
12. managing money	0	1	2	3	☐
13. your driving behaviour	0	1	2	3	☐
14. your health in general	0	1	2	3	☐

E. SOCIAL ACTIVITIES — How have your emotional or behavioural symptoms affected...					
1. getting along with people you encounter	0	1	2	3	☐
2. getting into arguments	0	1	2	3	☐
3. your ability to go out and have fun	0	1	2	3	☐
4. participating in hobbies and recreation	0	1	2	3	☐
5. your ability to make friends	0	1	2	3	☐
6. your ability to keep friends	0	1	2	3	☐

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HARVA TEACH

ADHD Related Domains of Outcome

- Executive Function:
  - Behavior Rating Inventory of Executive Function (BRIEF)
  - Barkley Deficits in Executive Function Scale
- Cognitive Disengagement Syndrome (Sluggish Cognitive Tempo)
- Wender Utah Rating Scale: a measure of ADHD in childhood that can be used in adults
- Mind wandering scale

Measurement Based Care is Essential

- Establishing a childhood history in adults
- Differential diagnosis and identification of comorbid conditions
- Obtaining collateral information from different informants and settings
- Evaluation of improvement and changes in symptoms of ADHD over time
- Evaluation of functional outcomes secondary to symptoms
- Identification of strengths and weakness in particular domains of functional impairment
- Identification of deficits in associated domains such as executive function, emotional dysregulation, sluggish cognitive tempo, and mind-wandering