

Separating Fact from Fiction:  
A Comprehensive Look at Current  
Research on ADHD...  
With Implications for Practice

Stephen Hinshaw  
UC Berkeley & UC San Francisco

AET  
November 4, 2022

---

---

---

---

---

---

---

---

1

Objectives

- 1. What is (and what's not) ADHD
  - Causal factors, underlying mechanisms, biology/context interplay
    - Especially re: parents and parenting
    - Differentiation from anxiety, depression, LD, trauma
- 2. Evidence-based treatments
- 3. Girls and women with ADHD
- 4. Rising prevalence rates—School policies
- 5. Stigma related to MI and NDD
- *Throughout: Implications for educational therapy*

---

---

---

---

---

---

---

---

2

1. Introduction to ADHD

- Considered as extremes of two key dimensions:
  - Inattention/disorganization
  - Hyperactivity/impulsivity
- Origins in extremes of temperament:
  - Intensity/Activity level/Low rhythmicity/Low EFFORTFUL CONTROL
    - Interacting with families, schools, cultures
  - But, as we'll see, doesn't always reveal itself in childhood (esp. females)
- How to know when patterns are at clinical level
  - Major controversy...need thorough clinical evaluation
  - Start with direct to consumer ads and doctrine of *fair use*

---

---

---

---

---

---

---

---

3

*I see Jason.*  
Not his ADHD.

*There's a big difference in my son - better test scores at school, more chores done at home - an independence I try to encourage. A little bit of ADHD can count on.*

If your child has been diagnosed with ADHD, talk to your doctor about your choices of medication. Medical studies support the active benefits of CONCERTA.<sup>®</sup>

- Helps get children off to a good start in school
- Helps children manage classroom tasks, family activities and friends
- Helps parents solve school, social problems and do "more things" together
- Fewer ADHD-related symptoms, such as impulsivity, inattention, and hyperactivity

CONCERTA is available in a variety of strengths and formulations. Talk to your doctor about the right choice for your child. CONCERTA is not for use in children with certain heart conditions, high blood pressure, or if you are taking MAO inhibitors. CONCERTA should not be used in children under 6 years of age. Always use medication as directed. For more information, visit [www.concerta.com](http://www.concerta.com). © 2014 Shire, Inc. All rights reserved.

**CONCERTA**  
Methylphenidate HCl Extended Release Tablets

Shire's only ADHD medicine.

---

---

---

---

---

---

---

---

---

---

---

4

**BROKEN PROMISES**

Divorce Decree

Adults with ADHD were nearly **2X** more likely to have been divorced.<sup>1</sup>

The consequences may be serious. Screen for ADHD.

Read more at [www.depressionandadhd.com](http://www.depressionandadhd.com) and download patient support materials, including an adult screening tool.

**Shire**  
Shire US Inc.  
Your ADHD Support Company

---

*"I'm Depressed..."*

Could it be ADHD?  
ADHD was found in 32% of adults with a depressive disorder.<sup>2</sup>

Look for ADHD in patients who present with depression.

Visit [www.depressionandadhd.com](http://www.depressionandadhd.com) for patient education kits and adult screening tools.

**Shire**  
Shire US Inc.  
Your ADHD Support Company

---

---

---

---

---

---

---

---

---

---

---

5

A third ad...

SHANE VICTORINO  
HITLER AND  
THE ADHD STORY

**I DIDN'T OUTGROW MY ADHD THAT'S WHY I'M TELLING MY STORY**

If you had ADHD as a kid, you may still have it. Watch Shane's video to learn it's your ADHD. Own it.

Watch Shane's video at [ShanesStory.com](http://ShanesStory.com)

---

---

---

---

---

---

---

---

---

---

---

6

## Definition/Assessment

- 9 symptoms of inattention
- 9 symptoms of hyperactivity/impulsivity
- Must be impairing and cross-situational
  - And present since < 12 yrs of age
    - Though as I'll note, this criterion can penalize girls
  - Recent controversy over 'adult onset' ADHD
- To assess...(would need an entire workshop...)
  - Must get informant-based information
  - Must get thorough developmental history
  - Must use normed rating scales
  - Individual measures of attention, etc.: Helpful but not mandatory
  - Cannot do in a brief pediatric visit

7

---

---

---

---

---

---

---

---

---

---

## Separating Fact from Myth

- Essential, given misinformation that abounds
- ADHD: not a 'lack of attention'
  - Rather, issues with *regulating attention* when...
    - Immediate rewards not present
    - Situations and demands shift
    - Tasks are rote
    - Tasks are difficult
      - E.g., learning to decode
      - E.g., starting high school, college, grad school, or new job

8

---

---

---

---

---

---

---

---

---

---

THE  
**ADHD**  
**EXPLOSION**

Myths, Medication, Money and  
Today's Push for Performance

Stephen P. Hinshaw and  
Richard M. Scheffler

9

9

---

---

---

---

---

---

---

---

---

---

## Core Issues

- **Clearly a syndrome, not a disorder**
  - Multiple causal pathways; risk factors transact
- **Trauma vs. ADHD?**
  - Or trauma compounding ADHD? Stay tuned...
- **Sex differences: 2.5:1 in rep. samples**
  - Male predominance for neurodevelopmental conditions
  - Girls relatively more likely to show Inattentive type
  - BUT, by adulthood, closer to 1.5:1, in general population

10

---

---

---

---

---

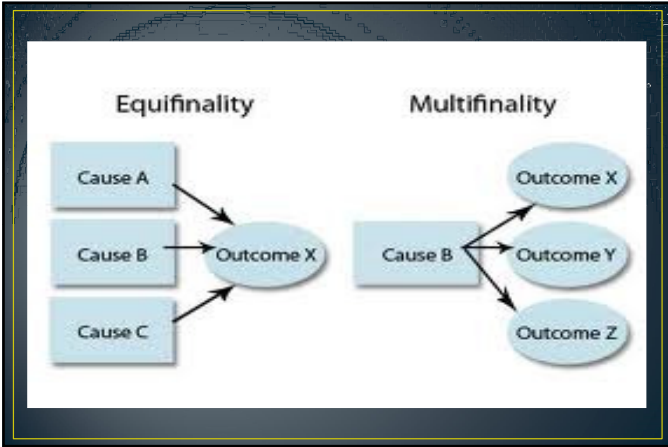
---

---

---

---

---



11

---

---

---

---

---

---

---

---

---

---

## Comorbidities

- **ADHD**
  - Can be mistaken for conduct problems, depression, anxiety, seizures, trauma (as just noted)
  - But can also co-exist with such problems
- **Even in community, ADHD rarely occurs alone**
  - ODD: 30-50%
  - CD: 10-20%
  - Anxiety disorders: 30% or more
  - Depression: 20%
  - Bipolar disorder: 0%-20% (extreme controversy)
  - LD: 15-25% (depends on definition)
  - Movement disorder: Asymmetrical with Tourette's

12

---

---

---

---

---

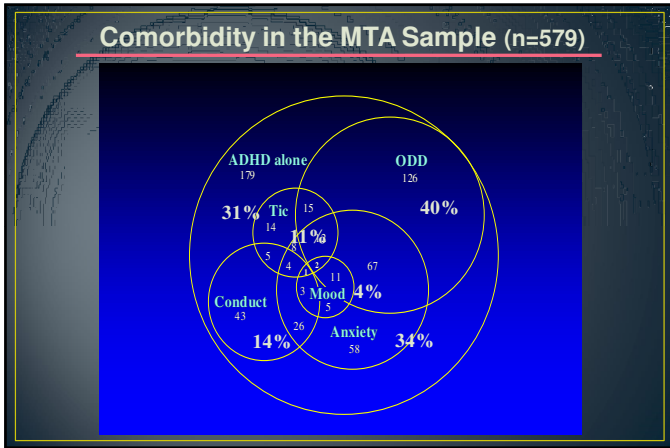
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---

13

- ### ADHD: Impairment
- Academic (school failure)/Vocational
    - \$100 billion/year (youth) indirect costs (justice, sp. ed, SUD)
    - \$200 billion annually (adults) indirect costs (job problems)
  - Social/peer (most peer-rejected condition)
  - Family (reciprocal chains of bidirectional influences)
  - Accidental injury (across the age span)
  - Self-harm (NSSI, suicidal behavior)

---

---

---

---

---

---

---

---

---

---

14

- ### ADHD Cross-Culturally
- Appears in nearly all cultures (with compulsory education)
    - Prevalence surprisingly similar (exceptions: US, Israel)
  - Polanczyk et al. (2007, 2014), *AJP*:
    - Diagnostic prevalence strikingly similar across world regions: 5-6%
    - Disparities linked to dx practices (ICD vs. DSM; informants; etc.)
  - Hinshaw et al. (2011)
    - Within-country variation high in many nations
    - However, treatments and systems of care vary radically across regions and cultures
  - **MANY NATIONS 'CATCHING UP' WITH U.S. re: MEDICATION**

---

---

---

---

---

---

---

---

---

---

15

## Nature of ADHD: Models

- “Attention” models
  - But which form(s) of attention?
  - And, as noted, it’s REGULATION of attention
- “EF” models:
  - Working memory, planning, interference control, set-shifting, etc.
  - But not specific to ADHD
- “Inhibition” models
  - Barkley’s theory
- “Motivation” models
  - Reward under-sensitivity/slow to develop intrinsic motivation

16

---

---

---

---

---

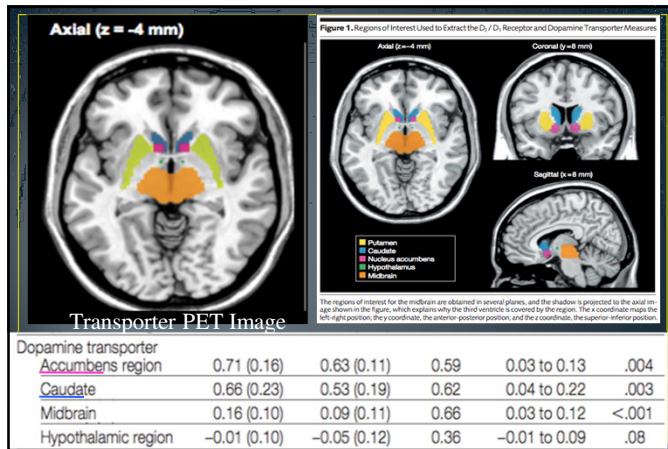
---

---

---

---

---



17

---

---

---

---

---

---

---

---

---

---

## “CE Question”: Which attentional or EF test yields largest ES differentiating ADHD vs. comparison samples?

- ANSWER: None of the above or all of the above
  - In fact, it’s intrasubject variability on any tests!
    - Including resting state/default mode imaging models
- “Combination models”:
  - Top-down executive control
  - Bottom-up delay aversion
  - Time management issues
- ADHD clearly implicates multiple brain regions and paths for different facets of symptoms

18

---

---

---

---

---

---

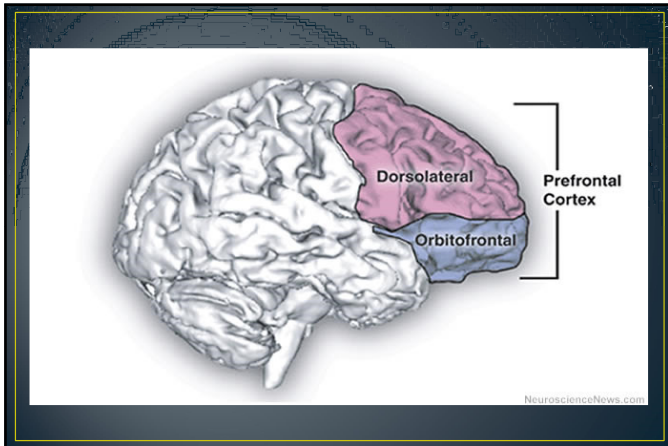
---

---

---

---





19

---

---

---

---

---

---

---

---

### Neural profiles

- **Structural/anatomical:**
  - Overall lowered cerebral volume; caudate, cerebellum...
- **Key research: Shaw et al. (2006, 2007, 2009, 2012)**
  - Delayed patterns of cortical thickening/thinning in ADHD vs. comparison samples, longitudinally
  - Roughly 3 year delay for ADHD groups: Immaturity come to life
  - *Immaturity persists*; thickness correlated with symptoms
- **Functional: Frontal-striatal paths**
  - Until recently: must 'scan' during active cognitive performance
  - Default mode: reliable differences when S's not 'doing anything'; more 'intrusions' into task performance in ADHD

20

---

---

---

---

---

---

---

---

### ADHD: Etiology

- **Heritability and Genes:**
  - $H^2$  of ADHD near .8
    - Such figures pertain to parent report of symptoms; but shared method variance/DZ twin contrast effects
    - Teacher ratings: Lower figures (still moderate to high)
  - Given these estimates, common assumption that ADHD is 'fixed' and largely immutable
    - I.e., "parenting can't matter"; parents as shepherds
    - Misreading of heritability—
      - Not the same across social class
      - Even for heritable traits, secular trends
      - PKU example
      - Heritability increases with time [because of  $r(G,E)$ ]

21

---

---

---

---

---

---

---

---

## Other Risk Factors

- **Low birthweight**
  - Predicts ADHD, LD, Tourette's, CP, intellectual disability
- **Teratogenic effects**
  - FAE: Many are nearly identical to ADHD symptoms
  - Smoking/nicotine: may be spurious
  - Biological + psychosocial effects of alcohol use in parents
- **Early parenting: No consistent evidence as causal**
  - Middle-class; few prospective studies from early years
- **Insecure attachment?**
  - Does NOT predict later ADHD
  - Re: aggressive behavior--interactions with temperament, later parenting, family structure/context, yield externalizing behavior

---

---

---

---

---

---

---

---

---

---

22

## Ultimate cause—or at least, the factor that 'reveals' ADHD?

- The "real" trigger for ADHD has to be compulsory education (same as for LD)
  - Certainly, 'attention' or 'impulse control' genes have been around for the history of our species, but extremes not salient until we made children sit and learn to read
- Entirely possible to posit genetic, neurobiological, AND cultural forces as responsible
- Many forms of mental disorder: 'mismatch' between vulnerability and current context

---

---

---

---

---

---

---

---

---

---

23

<http://berobertson.iweb.bsu.edu/developmental%20standards/styled-4/files/parenting.aif>

---

---

---

---

---

---

---

---

---

---

24



## Parenting Influences on Positive Peer Status

Hinshaw, Zupan, et al. (1997)

- **Aim: Predict peer acceptance from parenting**
  - **Ideas About Parenting** (Heming et al., 1989)
  - 3 factors = Authoritarian, Authoritative, Permissive
- **Authoritative Factor: 15 items**
  - *Warmth, Limits, Autonomy Encouragement--e.g.,*
    - "I encourage my child to be independent of me"
    - "I expect a great deal of my child"
    - "I have clear, definite ideas about childrearing"
    - "Raising a child is more pleasure than work"
    - "When I am angry with my child, I let him know"
    - "I reason with my child regarding misbehavior"

---

---

---

---

---

---

---

---

25

## Findings

- **Mothers of ADHD boys: lower on Authoritative (ES = .75)**
  - Yet variance in ADHD group equivalent to comparison group's
- **Tested predictive power of parenting factors, observed overt and covert behavior, and internalizing score (CDI, observed withdrawal) via hierarchical regressions**
  - Neither Authoritarian nor Permissive beliefs predicted peer nominations, but Authoritative beliefs did so

---

---

---

---

---

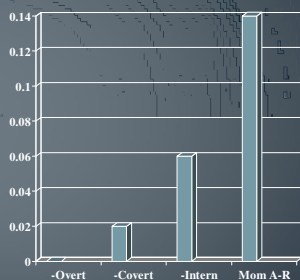
---

---

---

26

## Explained Variance in Positive Nominations



---

---

---

---

---

---

---

---

27

### Moderation and Implications

- Prediction applies only to ADHD group (beta > .35); for comparisons, beta = .00.
- Key theme: “firm yet affirming” parenting style

28

---

---

---

---

---

---

---

---

### Important New Findings

Harold et al. (2013a, 2013b); Sellers et al. (2021)

- Adoption study in UK
  - Controls for biological relatedness
- Even in adoptive families, kids’ levels of ADHD elicit overcontrolling parenting from parents
- AND, levels of harshness predict further ADHD symptoms, over time
- It’s not all in the genes!

29

---

---

---

---

---

---

---

---

### Implications for ET: #1

- Strong genetic liability/other biological pathways
  - YET FAMILY, SCHOOL, PEER, AND EDUCATIONAL THERAPY WORK!
  - Radical acceptance and radical commitment
- Apparent behavioral immaturity may be, in many cases, a true neural immaturity
  - Need for compassion, structure, and guidance
- Need for EXTRINSIC REWARDS
  - Especially as new material is being taught
- Youth with ADHD: organizational/time-management issues
  - Provide cues/timers/visual and auditory prompts/etc.

30

---

---

---

---

---

---

---

---

**Implications for ET: #2**

- Break tasks into small, manageable steps
- Find youth's strengths...
  - Use as rewards...
  - Ultimately, may be path to 'nontraditional' career
- Collaborate with home and school...
  - Target goals, reward programs, encouragement, consistency
- In fact, encourage, encourage, encourage!

31

---

---

---

---

---

---

---

---

**2. Evidence-based Treatments**

- Only 2 evidence-based treatments for ADHD:
  - Medications and behavioral interventions (CBT for adults)
  - And, their COMBINATION
- Promising...or not?
  - Neurofeedback (better controlled studies, but control group...?)
  - Cognitive training (e.g., Working Memory)
  - Diet/exercise (recent dietary trials; more recent aerobic exercise trials)
  - Omega-3s, other supplements
  - Meditation?
- Not supported
  - Marijuana, chiropractic, many others

32

---

---

---

---

---

---

---

---

**NOTE: Treatment Monitoring**

- Absolutely essential:
  - Must evaluate treatment effectiveness carefully!
  - *Medication:* Large range of effective dosages, little to predict which dose range will work for any given child
  - *Behavioral treatment:* Which rewards? Which punishments? Can tell only by monitoring...
    - Use narrow rating scales, with individualized items, to assess treatment responsiveness

33

---

---

---

---

---

---

---

---

## Medication Treatment

- **Stimulant medication: Best evidence**
  - Myth of “paradoxical” response
  - But, can be drugs of abuse, so use only when needed
  - Children do not appear to develop tolerance
    - Recent genetic evidence!
- **Until 2000, years ago, limitation = 3-4 hr coverage**
  - Now, a range of longer-acting formulations
- **Alternatives to stimulants**
  - Atomoxetine, Antihypertensives: NE rather than DA

34

---

---

---

---

---

---

---

---

---

---

## More on Medications

- **Large response rate re: stimulants**
  - 80% vs. 15% placebo, if well titrated and monitored
- **Effects on attention, impulsivity, behavioral control**
- **Learning and achievement:**
  - Positive effects, too (not simply making kids docile)

35

---

---

---

---

---

---

---

---

---

---

## Additional info

- **Stimulants should be called “SDRIs” (or “SDNRIs”)**
  - Action: block transport
- **Where are DA paths in brain?**
  - Reward, motor control, executive tracts
- **SNRIs or hypertensives: better than placebo but not equivalent to stimulants, overall**

36

---

---

---

---

---

---

---

---

---

---

## Behavioral Treatment

- Integration of home and school components, along with child components (e.g., social skills)
- Need for parents and teachers to collaborate
- Manageable goals--Rome wasn't built in a day!
- Reasonable expectations and extrinsic rewards
- "Prudent" negative consequences (without anger) > positive consequences alone
- *Gradual* fading of extrinsic rewards

37

---

---

---

---

---

---

---

---

## In many ways....

- Behavioral treatments add incentives, making up for motivational deficit, similarly to medications, but via a different mechanism
- ***YET CORE ADHD TREATMENTS DO NOT DIRECTLY AFFECT LEARNING DISORDERS, ANXIETY, DEPRESSION, ETC.***
- *Need for ET and other adjunctive treatments*

38

---

---

---

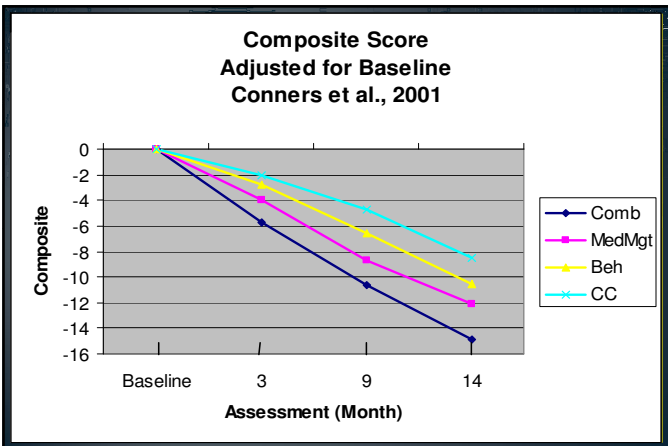
---

---

---

---

---



39

---

---

---

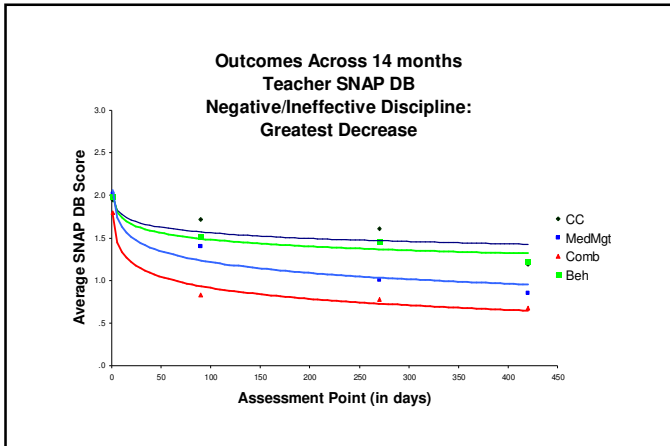
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---

40

### Implications and Conclusions

- Often, symptom relief from medications
  - But not long-lasting
- Skill building with combination/multimodal treatment
  - Closer to normal range when parenting becomes more authoritative
- AGAIN: Additional interventions needed for comorbid/associated conditions
  - Depression, trauma, *learning disorders*, anxiety, conduct problems

---

---

---

---

---

---

---

---

---

---

41

### 3. Girls and Women with ADHD

- ☐ Another myth: ADHD affects only boys!
- ☐ For decades, ADHD ('hyperactivity') believed to be a male condition
- ☐ Gender paradox?
  - Group (sex) with lower prevalence must have more and 'stronger' risk factors
  - ☐ Thus, females with ADHD...or males with depression or eating disorders

---

---

---

---

---

---

---

---

---

---

42



Why the Historical Neglect of Females?  
A Top-10 List

- **#10: It's not just ADHD; it's not just human research...**
  - Longstanding downplaying of females even in <animal> research
    - See Beery & Zucker (2011), *Neuroscience & Neurobehavioral Reviews*
    - See Mamlouk et al. (2020), *Frontiers in Neuroendocrinology*
  - In 1993, NIH requires justification for inclusion of females in all research proposals
    - But sex bias still remains in place, as highlighted by Mazure & Jones (2015)

43

---

---

---

---

---

---

---

---

---

---

Why the Historical Neglect of Females?  
Top-10 List

- **#9: Longstanding "lore" and bias**
  - In a kind of self-fulfilling prophecy: Because girls clearly didn't "have" ADHD or other neurodevelopmental disorders, they weren't selected for research studies or diagnosed clinically
  - Note: NDD's <are> more common in boys than girls
    - But not as much as formerly believed on the basis of clinical samples and accompanying bias
      - 3:1 for ASD
      - 2.5:1 for ADHD

44

---

---

---

---

---

---

---

---

---

---

Why the Historical Neglect of Females?  
Top-10 List

- **#8: Comorbidity—i.e., it must be something else!**
  - Girls (and women) <must> have anxiety, or depression, or conduct disorder, or borderline personality disorder, or a learning disorder...
    - But not ADHD
  - Even more recently, the comorbid diagnoses often rise to the surface in research or clinical assessments

45

---

---

---

---

---

---

---

---

---

---

## Why the Historical Neglect of Females? Top-10 List

- **#7: Former diagnostic criteria routinely downplayed female manifestations**
  - The very name of the condition was "hyperactivity" or "hyperkinesis"
  - Only in 1980 did DSM-III recognize ADD with or without hyperactivity
  - Subsequently, the utterly confusing terminology of "ADHD" with varied types or presentations

46

---

---

---

---

---

---

---

---

## Why the Historical Neglect of Females? Top-10 List

- **#6: In parallel, rating scales biased toward males**
  - E.g., Conners 10-item screener
  - E.g., hyperactivity vs. hyper-verbality
  - Impulsivity: broader than thoughtless actions per se
  - Lack of appreciation of underlying EF issues

47

---

---

---

---

---

---

---

---

## Why the Historical Neglect of Females? Top-10 List

- **#5: Rater/informant bias**
  - Obj. observations: Boys > girls re: HI, but boys = girls re: Inatt
  - Teacher ratings: Boys > girls on both
  - Therefore, girls underrepresented on key means of ascertainment
  - See meta-analysis of Loyer Carbonneau et al. (2020), *JAD*

48

---

---

---

---

---

---

---

---

Why the Historical Neglect of Females?  
Top-10 List

- **#4: Age of onset**
  - DSM-IV: < 7 years
    - Clear bias vs. girls (esp. with Inattentive presentation)
  - DSM-5: < 12 years
    - But even here, what about girls who don't reveal impairments until teen years?
    - And, in next slides, what about 'compensation' by girls and their families?

49

---

---

---

---

---

---

---

---

Why the Historical Neglect of Females?  
Top-10 List

- **#3: Compensatory behaviors**
  - On the part of girls <and> their parents
  - On average, girls have greater achievement motivation
    - And higher perfectionism...at the price of anxiety....
  - So, esp. with parental support, they try and try...
    - Until middle school or high school or college is utterly challenging
    - And then, the latent symptoms and impairments emerge

50

---

---

---

---

---

---

---

---

Why the Historical Neglect of Females?  
Top-10 List

- **#2: Other developmental challenges**
  - Transition to advanced education, work, intimate relationships, pregnancy, parenting
    - Each may elicit underlying vulnerabilities
    - Note psychobiological 'push': puberty, partuition, menopause
  - Underlying assumption that ADHD is a childhood disorder, mainly pertaining to males
  - NOTE: NEGLECT OF RESEARCH on LGBT+ youth/young adults

51

---

---

---

---

---

---

---

---

## Why the Historical Neglect of Females? Top-10 List

- **#1: Sex-specific vs. sex-general norms**
  - **Controversial:**
    - Should females be compared to female vs. overall norms?
    - Same for males with depression? Not so sure!
    - In other words, is the aim to equate prevalence rates?

52

---

---

---

---

---

---

---

---

## Our goal in 1990s

- ▣ Ascertain a large, diverse, viable female sample
- ▣ Assess carefully/conduct summer programs
  - ▣ Told families at outset that we wanted to study their daughters for the rest of their lives
- ▣ Our sample (BGALS):
  - Largest in existence of preadolescent girls with ADHD (140, with 88 matched comparison girls)
  - Baseline: marked impairments across symptoms, impairments, neuropsych measures
  - Impairments maintained at 5-year follow-up
    - 11/11 domains, with widening gap in math
    - Hinshaw (2002, 2006, 2012), *Journal of Consulting and Clinical Psychology*
- ▣ HETEROTYPIC CONTINUITY?

53

---

---

---

---

---

---

---

---

The diagram illustrates the progression of a sample through four developmental stages, each with a mean age (M) and a retention rate. The stages are labeled W1 through W4.

Stage	Label	Mean Age (M)	Retention Rate
Childhood	W1	9.5	-
Adolescence	W2	14.2	92%
Early Adulthood	W3	19.6	95%
Adulthood	W4	25.6	94%

54

---

---

---

---

---

---

---

---

## Self-harm

- **Suicidal behavior: intent is to die**
  - Suicidal ideation (common)
  - Suicide attempt (rarer)
- **Non-suicidal self-injurious behavior (NSSI)**
  - No express intent to die, but to express (or ease) intense psychological pain
  - Linked to poor emotion regulation
  - Wide range—cuticles to cutting/burning
- **But many suicide attempters have history of NSSI**
  - NSSI in teens a better predictor of later suicidality than earlier suicide attempts per se; may be lethal

---

---

---

---

---

---

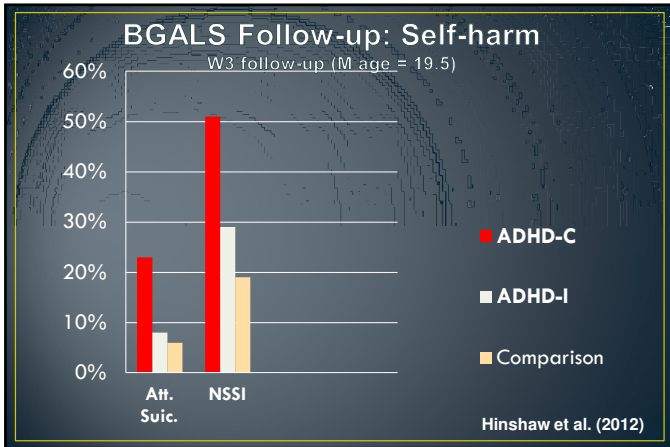
---

---

---

---

55




---

---

---

---

---

---

---

---

---

---

56

## Important Finding, but Why?

- Mediator is a variable/process that happens in between the predictor and the outcome...and that explains why the outcome happened
- We examined Wave 2 (adolescent) mediators of the ADHD to Self-harm predictive association

---

---

---

---

---

---

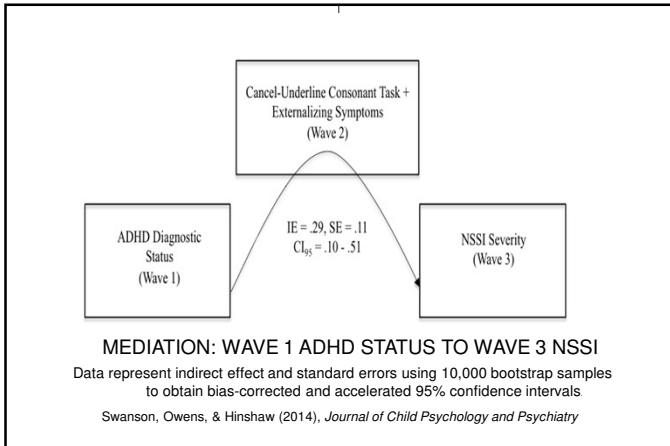
---

---

---

---

57




---

---

---

---

---

---

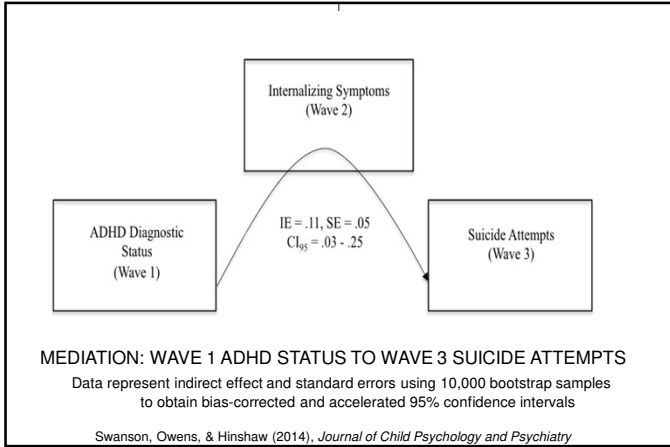
---

---

---

---

58




---

---

---

---

---

---

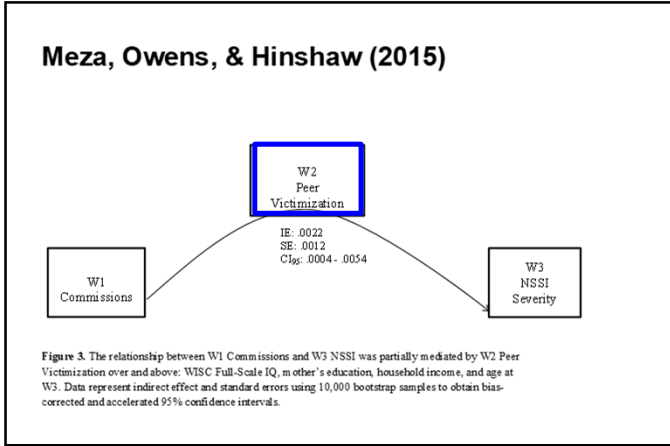
---

---

---

---

59




---

---

---

---

---

---

---

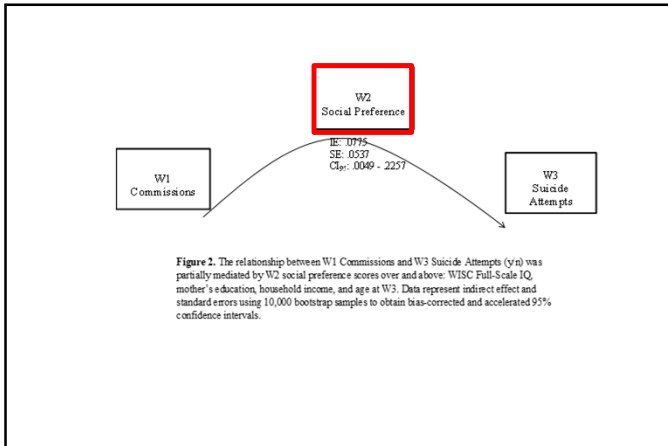
---

---

---

60





61

---

---

---

---

---

---

---

---

---

---

### Trauma and relationships?

- Guendelman et al. (2016a):
  - Physical/sexual abuse, +/- or neglect higher in ADHD than Comps
  - Within ADHD group, the maltreated subgroup more likely to show depression and suicide attempts (not externalizing behavior)
    - Girls with early ADHD AND maltreatment: suicide att. rate = 34%
    - Girls with early ADHD but NO maltreatment: suicide att rate = 14%
- See parallels with another heritable condition:
  - Bipolar disorder
- AND, girls with ADHD likely to be victims of intimate partner violence by adulthood (Guendelman et al., 2016b)

62

---

---

---

---

---

---

---

---

---

---

### By Wave 4 (mid-late 20s)

Owens, Zalecki, Gillette, & Hinshaw, *JCCP* (2017)

- Unplanned pregnancy rates:
  - Comparison : 10.6%
  - ADHD: 43%
  - REGARDLESS of persistence of ADHD symptoms across time
  - What mediates? ADOLESCENT ACADEMIC ACHIEVEMENT
- Fewer years of education/far lower achievement scores
  - Again, regardless of persistence of ADHD symptoms over time
  - But other outcomes (e.g., self-injury, comorbidity, global impairment) are related to ADHD symptom persistence
- Owens & Hinshaw (2016, *Development and Psychopathology*)
  - Early cognitive vulnerability predicts adult comorbidity through adolescent poor self-control/delay of gratification and low achievement

63

---

---

---

---

---

---

---

---

---

---

## Predictors of Self-Harm

- Meza, Owens, & Hinshaw (2020, *Devel. & Psychopathology*)
  - Lifetime rates of self-harm related to childhood...
    - ADHD severity
    - Externalizing problems,
    - Negative *father-child* interactions
    - EF deficits
    - Low self-esteem
    - ACEs
  - Note on ACEs: Total score? Dimensions of threat vs. deprivation
    - McLaughlin & Sheridan (2021)

---

---

---

---

---

---

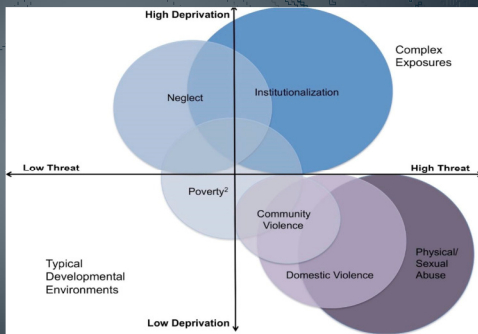
---

---

64

## 2 x 2: DMAP

But notice that the 4 quadrants aren't equally 'full'



---

---

---

---

---

---

---

---

65

## ADHD: Differences from Males

- Lower rates of delinquency and substance abuse
- Our girls did graduate from high school (barely) but have major post-secondary issues
- Yet markedly higher rates of self-harm
  - Predicted by early impulsivity, mediated by adolescent response inhibition, and either externalizing (NSSI) or internalizing (suicide) problems

---

---

---

---

---

---

---

---

66

## More general sex differences

- As noted before, first decade of life: risk period for boys
  - Higher rates of ADHD, autism, conduct disorder, Tourette's
- Why? Lack of protection yielded by Y chromosome; testosterone 'bath' in utero
- For first few years of life, girls more empathic, social, verbal, and compliant
  - No wonder they have lower rates of behavioral and social disorders

67

---

---

---

---

---

---

---

---

## But second decade of life...

- Risk period for girls with respect to internalizing disorders...
  - Depression, anxiety, eating disorders, self-harm
- Why?
  - Hinshaw (2009): *The Triple Bind*
    - Girls must be empathic, competitive, and effortless/sexualized at the same time

68

---

---

---

---

---

---

---

---

## Implications for Girls

- More likely than boys to show the 'Inattentive' presentation
- During childhood, may compensate/over-try/cover the symptoms—but at the cost of anxiety/perfectionism
- SO, WHEN WORKING WITH GIRLS WITH ADHD ISSUES...
  - Be aware of stigma (see below), huge anxiety, and attempts to 'cover'
- Realize that the 'boy' symptoms of oppositionality, etc., may not be as salient

69

---

---

---

---

---

---

---

---

### 4. Rising Prevalence Rates: Tidal Wave/ADHD Explosion

National Survey of Children's Health (Visser et al., 2014)  
*Journal of the American Academy of Child & Adolescent Psychiatry*

- **Parent-reported ADHD 'ever diagnosed'**
  - 2003: 7.8%
  - 2007: 9.5%
  - 2012: 11.0%
    - 41% INCREASE IN 9 YEARS, for all 4-17 year-olds
  - Low-income rates now = middle-class; Black = White
    - Hispanic lower (but fast growing)
- **Medication rates higher, too:**
  - Just under 70% of those 'currently diagnosed' now receive meds
  - Largest medication increases: adolescents, adults

70

---

---

---

---

---

---

---

---

---

---

### Earlier Explosions: 1990s

- **Policy shifts:**
  - IDEA: ADHD as OHI
  - Medicaid: authorizes ADHD
  - SSI: ADHD (with other impairment) can qualify
- Late 1990s: FDA changes regulations on DTC ads
- 2000: Concerta (first effective long-acting form)
- More and more LBW babies survive (true prevalence?)

71

---

---

---

---

---

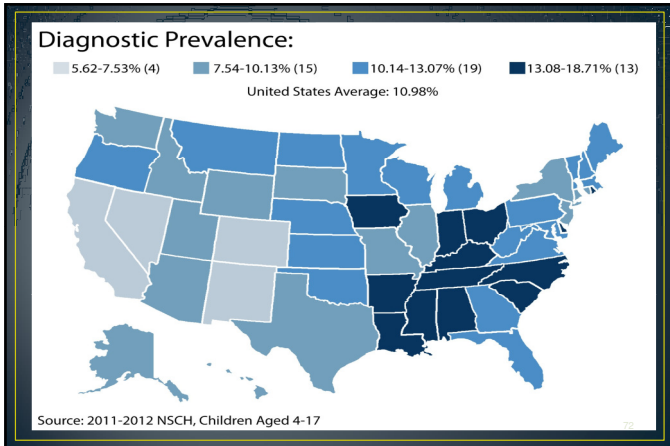
---

---

---

---

---



72

---

---

---

---

---

---

---

---

---

---

## What does *not* explain variation

- **Demographics**
  - Hispanic population clearly higher in California, and traditionally the lowest rates of diagnosis
  - Eliminated a little of the CA-NC difference but not most
  - \*\*Hispanic rates growing FAST, esp. in California
- **Rates of health-care providers**
  - Explains other disorders, but not here
- **State “culture”**
  - May explain regional differences within state -- but not state-by-state per se

73

---

---

---

---

---

---

---

---

## \*\*Consequential Accountability

- 1970s-80s: public school reforms “input focused”
  - Reduce class size, pay teachers more, etc.
- Results not consistent; shift in 1990s to “output focused”
  - I.e., incentivize test score improvements per se
- Consequential accountability—districts get ‘noted’ or even cut off from funds, unless test scores go up
  - 30 states implement such laws <2000
- Then, becomes law of the land for all states with No Child Left Behind (takes effect 2002-3)

74

---

---

---

---

---

---

---

---

## Findings

From “triple difference” model

- **Between 2003-2007, in the 20 “NCLB states,” poorest children showed huge increases in ADHD Dx:**
  - In these states, 59% increase in ADHD dx for kids within 200% of FPL
  - vs. only 8% in middle- or upper-class kids
  - Nothing like that in states with previous consequential accountability (all kids in those states went up 20% or so)
  - Nothing like that in private schools
  - This trend reverses by 2012, with Obama’s dismantling of NCLB

75

---

---

---

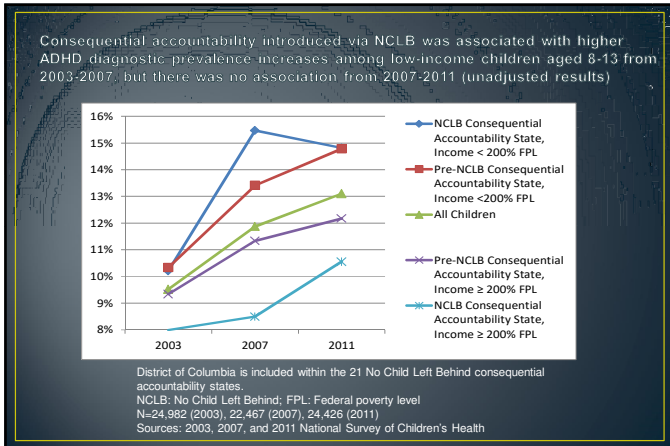
---

---

---

---

---



76

---

---

---

---

---

---

---

---

---

---

---

---

**“Unintended effect”**

- Accountability laws encourage ADHD diagnosis for at least two reasons:
  - #1: Diagnosis may lead to treatment, which may help boost achievement test scores
    - Scheffler et al. (2009), Zoega et al. (2012)
  - #2: In some states/districts, diagnosed youth are excluded from the district's average test score!
    - Gaming the system, although NCLB eventually outlaws this
- Why poorest kids? NCLB targets Title I schools

77

---

---

---

---

---

---

---

---

---

---

---

---

**5. Stigma**

Hinshaw (2007). *The Mark of Shame* (Oxford U. Press)

- Ancient Greece: Literal 'mark of shame'
  - Brands placed on slaves or traitors
  - Today: Psychological "branding"
- What groups are stigmatized?
  - Racial minorities, sexual minorities, women, left-handers, physical disabilities, adoptees, obese, delinquent youth
  - Most stigmatized: People with mental illness, homelessness, substance abuse
- Distinguish
  - Stereotypes (cognitive)
  - Prejudice (affective)
  - Discrimination (behavioral)
  - Stigma (all of the above, plus global nature of castigation, self-fulfilling prophecies, and self-stigma)

78

---

---

---

---

---

---

---

---

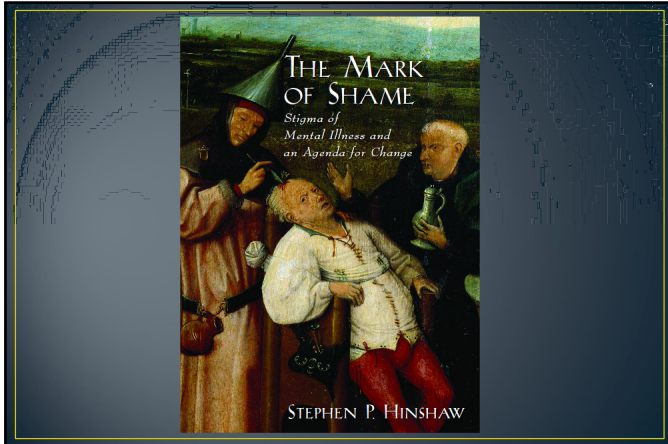
---

---

---

---





79

---

---

---

---

---

---

---

---

### Self-stigma (internalized stigma)

- Nearly all members of stigmatized groups are aware of the culture's stereotypes/beliefs/practices
  - Thus, likelihood (though not certainty) that such individuals will internalize these beliefs
- Antidotes: identity, group solidarity
- Double whammy: disorders themselves likely to fuel demoralization, but self-stigma multiplies the risk
- Important research findings:
  - Even adjusting for initial levels of symptoms, self-stigma predicts (a) lack of treatment seeking and (b) early termination from treatment

80

---

---

---

---

---

---

---

---

### Courtesy Stigma

- Goffman:
  - If society has stigmatized a given class of people, it's common courtesy to stigmatize those *associated* with such individuals, particularly family members
- Parents of youth with mental disorders: Directly blamed for offspring's problems for decades
  - Even genetic transmission leaves blame on parents
- Objective burden and subjective burden
  - Subjective burden usually experienced as worse

81

---

---

---

---

---

---

---

---

## Narrative Approaches

- Empirical science best approach for gaining objective understanding
  - Culture wars, 'science is no better than any other approach' = so 1980s
- Potential value of qualitative tools
- Narrative accounts may...
  - Despite lack of control, non-representativeness, bias...
  - Suggest right variables and processes
  - Discuss life events in 'person' context
  - Understand (and even thwart) silence and stigma, enhancing interest and legitimacy of this area of work
  - Fuel better quantitative work, so long as limitations fully acknowledged

---

---

---

---

---

---

---

---

---

---

82

---

---

---

---

---

---

---

---

---

---

83

## Personal and Family Example

- Life of Virgil Hinshaw, Jr.
  - Prohibition
  - Death of mother
  - Stepmother and abuse
  - 1930's
  - 1940's (Princeton, Byberry, OSU)
  - 1950's (doctor's orders)

---

---

---

---

---

---

---

---

---

---

84

## Language

- Dad—Told me he wished for a real illness, not 'mental illness'
  - Wished he'd had cancer...
- Are labels dehumanizing or empowering?

---

---

---

---

---

---

---

---

85

## Family Silence and Communication: What to tell children?

- Anything better than nothing, than silence
- Child's tendencies:
  - Internalize; blame self; caretake?
- Beardslee's approach for families in which a parent is depressed:
  - Now called FAMILY TALK
  - Family tx in which narrative constructed
  - Beardslee et al., 2003, *Pediatrics*: Short and longer-term effects on offspring
- Resilience in offspring—self-understanding, relevant work, provide narrative/bear witness

---

---

---

---

---

---

---

---

86

## Stigma and ADHD

- Wouldn't stigma pertain to ultra-severe dimensions/disorders (e.g., psychosis) but not ADHD?
- Yet inconsistency in behavior (with high expectations) may trigger stigma
- Overdiagnosis
  - Paired with accounts of faking symptoms, stigmatize the entire condition
- Parents potentially fearful of receiving the diagnosis for their kids
- For females with ADHD:
  - Not socially attuned
  - Not (apparently) as achievement-focused
  - Thus, double or triple stigma

---

---

---

---

---

---

---

---

87

## Stigma and Neurodevelopmental Disorders

- ADHD: Again, inconsistency of behavior
  - 'Why can't he or she control it?'
- Stigma particularly for girls/women
  - 'Expected' to be socially/academically skilled/self-regulated
- Parents
  - Feel stigmatized, too
    - 'Associated with youth' <and> blamed
    - See findings for parents of youth with high- vs. low-functioning ASD

---

---

---

---

---

---

---

---

88

## OVERALL IMPLICATIONS

- For ADHD: Insist on thorough assessment
- Treatment must include...
  - \*Extrinsic rewards...org skills...time management...observable cues
  - \*Well-delivered medication, as needed
  - \*Compassion/support for 'immaturity'
  - \*Essential 'mediational power' of low academic achievement
  - \*Explicit coordination with parents and teachers
  - \**Find and support strengths*
- \*Supports throughout the lifespan
  - With the recognition that for girls/women, recognition may come late

---

---

---

---

---

---

---

---

89

## Questions and Issues

- GREAT THANKS TO...
  - Lab, students, colleagues
  - NIMH, NIDA, Dept of Education
  - Robert Wood Johnson Foundation
  - UCSF-UC Berkeley Schwab Dyslexia and Cognitive Diversity Center
- And, of course, thanks to AET

---

---

---

---

---

---

---

---

90