The Assessment of Children’s Emotional, Behavioral and Developmental Challenges: Welcome to the 21st Century

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Disclosure

- My expenses for this talk are supported by Multi-Health Systems.
- I have developed tests marketed by Multi-Health Systems, Pro-Ed and Western Psychological Services.
- I am Editor in Chief of the Journal of Attention Disorders (Sage) and Co-Editor of the Encyclopedia of Child Development (Springer)

Learning Objectives For Today
The Future

A man goes fishing.

Preschool Graduation Part I
Preschool Graduation Part II

The purpose of life is to prepare the next generation for their future.

Caregivers are the architects of the way in which experience influences genetically preprogrammed but experience dependent brain development.

Daniel Siegel
The Developing Mind
Survival of the Species

- Salmon and snakes are born with sufficient instincts to survive.
- Bear cubs require at least one or two years with their mother to insure survival.
- Higher primates require three or four years.
- Humans require at least ten years.

Through the Eyes of Innocence

We have done an a very good job of marketing the concept of school to young children.
We have been successful in doing so because they possess Instinctual Optimism and Intrinsic Motivation.

We have perpetuated the nineteenth century perception that raising children is a process by which information is dumped into a BLACK BOX lying mysteriously within the human brain.

We have also assumed a Stepford Wives model that all black boxes are identical.
The Bus Test

I Had a Revelation in St. Augustine
The world operates along a normal curve!

Todd: Journey of a Youth with ADHD
“I thought he’d be a smart criminal...”
### The Percentage of High School Students Who:

<table>
<thead>
<tr>
<th>Event</th>
<th>2007 Total</th>
<th>2009 Total</th>
<th>2011 Total</th>
<th>2013 Total</th>
<th>2015 Total</th>
<th>2017 Total</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were threatened or injured with a weapon at school</td>
<td>7.8</td>
<td>7.7</td>
<td>7.4</td>
<td>6.9</td>
<td>6.0</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>Did not go to school because of safety concerns</td>
<td>5.5</td>
<td>5.0</td>
<td>5.9</td>
<td>7.1</td>
<td>5.6</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Were electronically bullied</td>
<td>NA</td>
<td>NA</td>
<td>16.2</td>
<td>14.8</td>
<td>15.5</td>
<td>14.9</td>
<td></td>
</tr>
<tr>
<td>Were bullied at school</td>
<td>NA</td>
<td>19.9</td>
<td>20.1</td>
<td>19.6</td>
<td>20.2</td>
<td>19.0</td>
<td></td>
</tr>
<tr>
<td>Were forced to have sex</td>
<td>7.8</td>
<td>7.4</td>
<td>8.0</td>
<td>7.3</td>
<td>6.7</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>Experienced physical dating violence*</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>10.3</td>
<td>9.8</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>Experienced sexual dating violence*</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>10.4</td>
<td>10.6</td>
<td>6.9</td>
<td></td>
</tr>
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<th>2017 Total</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced persistent feelings of sadness or hopelessness</td>
<td>28.5</td>
<td>28.1</td>
<td>28.5</td>
<td>29.9</td>
<td>29.9</td>
<td>31.5</td>
<td></td>
</tr>
<tr>
<td>Seriously considered attempting suicide</td>
<td>14.5</td>
<td>13.8</td>
<td>15.8</td>
<td>17.0</td>
<td>17.7</td>
<td>17.2</td>
<td></td>
</tr>
<tr>
<td>Made a suicide plan</td>
<td>11.3</td>
<td>10.9</td>
<td>12.8</td>
<td>13.6</td>
<td>14.6</td>
<td>13.6</td>
<td></td>
</tr>
<tr>
<td>Attempted suicide</td>
<td>6.9</td>
<td>6.3</td>
<td>7.8</td>
<td>8.0</td>
<td>8.6</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>Were injured in a suicide attempt</td>
<td>2.0</td>
<td>1.9</td>
<td>2.4</td>
<td>2.7</td>
<td>2.8</td>
<td>2.4</td>
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We fail to appreciate that children are genetically endowed with certain patterns of behavior and thought.
What Are These Traits

- The drive to help
- The drive to mastery
- Intrinsic motivation
- Instinctual optimism
- Altruism
- Problem-solving
- Social connection
- The drive to acquire knowledge
- Fairness

Do Children Care What We Think? Part I

To Mrs. Caldwell,

Dear Mrs. Caldwell,

I hope you are doing well. I am writing to tell you about a problem I have been facing. It is very difficult for me to write because I am very nervous. I try to do my best, but it is hard.

Sincerely,

[Signature]

Do Children Care What We Think? Part II

Why I Won't Never Go Back to School

Dear Mrs. Caldwell,

Mrs. Caldwell, here are some reasons why I don’t want to go back to school. I don’t feel safe and I don’t want to be there anymore.

Sincerely,

[Signature]
Biology is not destiny but it does effect probability. In every risk group there are those who manage to transition successfully into adult life despite their adversities.

Resilience
• A process leading to good outcome despite high risk
• The ability to function competently under stress
• The ability to recover from trauma and adversity

“I’m not afraid about my girlfriends and myself, we’ll squeeze through somehow, though I’m not too certain about my math.”

Anne Frank
June 21, 1942
"I have lots of courage, I feel so strong and as if I can bear a great deal. I feel so free and so young! I was glad when I first realized it, because I don’t think I shall easily bow down before the blows that inevitably come to everyone."

Anne Frank
July 15, 1944

The pathways that lead to positive adaptation despite high risk and adversity are complex and greatly influenced by context therefore it is not likely that we will discover a magic (generic) bullet.

Resilient children are not simply born that way nor are they made from scratch by their experiences. Genetic and environmental experiences loom large as protectors against a variety of risks to healthy development ranging from resistance to bacteria and viruses to resilience to maltreatment and rejection.

Kirby Deater-Deckard
Resilience is Predicted By Factors Within:

The Child

- Female gender
- Early puberty
- Difficult temperament: inflexibility, low positive mood, withdrawal, poor concentration
- Low self-esteem, perceived incompetence, negative explanatory and inferential style
- Anxiety
- Low- or depressive symptoms and dysthymia
- Insecure attachment
- Poor social skills: communication and problem-solving skills
- Extreme need for approval and social support

The Family

- High IQ
- Positive social skills
- Willingness to please adults
- Religious and club affiliations
- Positive physical development
- Academic achievement

The Culture

Risk and Protective Factors: In the Individual

<table>
<thead>
<tr>
<th>Risks</th>
<th>Protective Factors</th>
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<tbody>
<tr>
<td>Low self-esteem</td>
<td>High self-esteem</td>
</tr>
<tr>
<td>Shyness</td>
<td>Emotional self-regulation</td>
</tr>
<tr>
<td>Emotional problems in childhood</td>
<td>Good coping skills and problem-solving skills</td>
</tr>
<tr>
<td>Conduct disorder</td>
<td>Engagement and connections in two or more of the following contexts: school, with peers, in athletics, employment, religion, culture</td>
</tr>
<tr>
<td>Favorable attitudes toward drugs</td>
<td></td>
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<td>Rebelliousness</td>
<td></td>
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<td>Early substance use</td>
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<tr>
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<td>Head injury</td>
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### Risk and Protective Factors: In the Family

**Risks:**
- Inadequate or inappropriate child-rearing practices
- Insecure attachment
- Maltreatment and abuse
- Large family size
- Parental antisocial history
- Poverty
- Exposure to repeated family violence
- Divorce
- Parental psychopathology
- Teenage parenthood
- A high level of parent-child conflict
- A low level of positive parental involvement
- Family dysfunction
- Poor parental supervision
- Sexual abuse

**Protective:**
- Participation in shared activities between youth and family, including talking and problem-solving
- Availability of resources and other resources to resource youth to multiple experiences
- The presence of a positive adult(ly) in the family to mentor and be supportive
- Family provides structure, limits, rules, monitoring, and support
- Supportive relationships with family members
- Clear expectations for behavior and values

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### Risk and Protective Factors: In Peers

**Risks:**
- Spending time with peers who engage in delinquent or risky behavior
- Gang involvement
- Less exposure to positive social opportunities because of bullying and rejection

**Protective:**
- Positive and healthy friends to associate with
- Engagement in healthy and safe activities with peers during leisure time (e.g., clubs, sports, other recreation)

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### Risk and Protective Factors: School and Community

**Risks:**
- Poor academic performance
- Enrollment in schools that are unsafe and fail to address the academic and social and emotional needs of children and youth
- Low commitment to school
- Low educational aspirations
- Poor motivation
- Living in an impoverished neighborhood
- Social disorganization in the community in which the youth lives
- High crime neighborhoods

**Protective:**
- Enrollment in schools that address not only the academic needs of youth but also their social and emotional needs and learning
- Schools that provide a safe environment
- A community and neighborhood that promote and foster healthy activities for youth

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**Substance Abuse and Mental Health Services Administration** (2009). Risk and protective factors for mental, emotional, and behavioral disorders across the life cycle. Summarized from: [http://dhss.alaska.gov/dbh/Documents/Prevention/programs/spfsig/pdfs/IOM_Matrix_8%205x11_FINAL.pdf](http://dhss.alaska.gov/dbh/Documents/Prevention/programs/spfsig/pdfs/IOM_Matrix_8%205x11_FINAL.pdf)
Not surprisingly all but two things we do as psychologists are dimensional!

- Diagnosis
- Eligibility Determination

We Are the First Congress on Defining Mental Illness (circa 1820)
How Do We Understand, Define And Categorize Mental Illness?

How Shall We Understand, Define, Categorize and Evaluate Treatment Response in Mental Illness?

• By etiology or cause?
• By emotions, behaviors and thoughts?
• By impaired function in activities of life?

The Disruptive Continuum of Behavior
How Shall We Understand, Define and Categorize Mental Illness and Developmental Problems?

- By etiology or cause?
- By emotions, abilities, behaviors and thoughts?
- By impaired function in activities of life?

Diagnosis

Medicine/Medical.

The process of determining by examination the nature and circumstances of a diseased condition.

The decision reached from such an examination.
Eligible

adjective
Having the right to do or obtain something; satisfying the appropriate conditions.

*Customers who are eligible for discounts*

Synonyms: entitled, permitted, allowed, qualified, able

*Those people eligible to vote*

(of a person) desirable or suitable as a partner in marriage.

*The world’s most eligible bachelor*

Synonyms: desirable, suitable

Determining eligibility is an outcome best understood and obtained by a thorough assessment.

How distinct are these disorders from each other?

Much less so than makes me comfortable!
Co-Occurrence/Comorbidity

<table>
<thead>
<tr>
<th>Dx</th>
<th>ASD</th>
<th>ODD</th>
<th>CD</th>
<th>Anx</th>
<th>Dep</th>
<th>LD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>59%</td>
<td>47%</td>
<td>22%</td>
<td>31%</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>ASD</td>
<td>4% to 37%</td>
<td>1% to 30%</td>
<td>22%</td>
<td>1.4% to 38%</td>
<td>70%+</td>
<td></td>
</tr>
<tr>
<td>ODD</td>
<td>42%</td>
<td>62%</td>
<td>39%</td>
<td>55%+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How distinct are these disorders from each other?

Although the National Institute of Mental Health (NIMH) has prepared well for this undertaking, much remains to be done. Rigorous diagnostic procedures are available for some mental disorders, but not all. Studies to identify the genes that influence the onset of mental disorders have been initiated, but too few are large enough to efficiently detect these genes. Dedicated investigators are working on various aspects of mental disorders, but more researchers with training in molecular and statistical genetics are required [NIH, 1997].

How distinct are these disorders from each other?

For over a century, psychiatric disorders have been defined by expert opinion and clinical observation. The modern DSM has relied on a consensus of experts to define categorical syndromes based on clusters of symptoms and signs, and, to some extent, external validators, such as longitudinal course and response to treatment. In the absence of an established etiology, psychiatry has struggled to validate these descriptive syndromes, and to define the boundaries between disorders and between normal and pathologic variation.

NIH National Institute of Mental Health

Psychiatric genetics and the structure of psychopathology
How distinct are these disorders from each other?

Before the modern era of genomic research, family and twin studies demonstrated that all major psychiatric disorders aggregate in families and are heritable. Over the past decade, the success of large-scale genomic studies has confirmed several key principles: (1) psychiatric disorders are highly polygenic, reflecting the contribution of hundreds to thousands of common variants of small effect and rare (often de novo) SNVs and CNVs; (2) genetic influences on psychopathology commonly transcend the diagnostic boundaries of our clinical DSM nosology. At the level of genetic etiology, there are no sharp boundaries between diagnostic categories or between disorder and normal variation.

Comorbidity is the RULE not the Exception

How Shall We Understand, Define and Categorize Mental Illness?

• By etiology or cause?
• By emotions, behaviors and thoughts?
• By impaired function in activities of life?
What is the Goal of a Comprehensive Evaluation?

- Identify and define symptoms?
- Identify and define strengths and weaknesses?
- Appreciate the relationship of a set of symptoms to a unitary condition?
- Define limits of functional impairment to set a baseline for intervention?

Components of a Thorough Assessment

- History
- Broad Spectrum Questionnaires (Parent and Teacher)
- Impairment, Risk, Executive Functioning
- Narrow Spectrum Questionnaires (Parent and Teacher)
- Self report Questionnaires
- Ability Assessment
- Achievement Assessment
- Interview with student

General Guidelines for a Comprehensive Evaluation

- A distinction should be made between acute vs. chronic problems.
- Person and environment protective factors need to be understood.
- Assessment should be strength and risk focused.
- Test results should be presented in ways that are useful to consumers (e.g., family, school, etc.).
- The least amount of assessment needed to answer referral questions should be completed.
Person Attributes Associated With Successful Coping*

- Affectionate, engaging temperament.
- Sociable.
- Autonomous.
- Above average IQ.
- Good reading skills.
- High achievement motivation.
- Positive self-concept.
- Impulse control.
- Internal locus of control.
- Planning skills.
- Faith.
- Humorous.
- Helpfulness.

*Replicated in 2 or more studies.

Environmental Factors Associated With Successful Coping*

- Smaller family size.
- Maternal competence and mental health.
- Extended family involvement.
- Close bond with primary caregiver.
- Supportive siblings.
- Living above the poverty level.
- Friendships.
- Supportive teachers.
- Successful school experiences.
- Involvement in pro-social organizations.

*Replicated in 2 or more studies.

The pathways that lead to positive adaptation despite high risk and adversity are complex and greatly influenced by context, therefore it is not likely that we will discover a magic (generic) bullet.
Determining diagnosis or eligibility is an outcome best understood and obtained by a thorough assessment.

Critical Issues In Assessment

- Demographics
- Symptoms vs. consequences
- Categories vs. dimensions
- Eligibility vs. diagnosis
- Developmental pathways: accept a moment in time
- There are no shortcuts
- Assess the environment
Critical Issues in Assessment

- Assess for intervention
- Understand positive and negative predictive power
- Understand sensitivity vs. specificity
- Begin with the disruptive/non-disruptive continuum
- Keep low incidence problems in mind
- Consider resilience (protective) factors
- Measure impairment

How the Brain Works
Ability, Knowledge and Skill

Why is the assessment of impairment critical to a comprehensive evaluation?
An exhaustive review of the literature demonstrates that the relationship between symptoms and functioning remains unexpectedly weak and often bidirectional (McKnight and Kashdan, 2009).

Impairment is the reduced ability to meet the demands of life because of a psychological, physical, or cognitive condition.

**SYMPTOMS VS. IMPAIRMENT**

- Symptoms are physical, cognitive or behavioral manifestations of a disorder.
- Impairments are the functional consequences of these symptoms.
SYMPTOMS VS. IMPAIRMENT

Impairment can exist absent of formal diagnosis. (Balazs et al., 2013; Wille et al., 2008)

In one study 14.2% of a sample of children were significantly impaired without a formal diagnosis. (Angold et al., 1999)

Adaptive Behavior vs. Impairment

Skill vs. Performance

Do you know how to do it?

Do you actually do it?

Adaptive Behavior vs. Impairment

Using utensils vs. Not using utensils to eat
Symptoms vs. Impairment

Inattention

Difficult completing homework

Rating Scale of Impairment (RSI) Forms

RSI (5-12 Years)
- Parent Form: 41 items
- Teacher Form: 29 items

RSI (13-18 Years)
- Parent Form: 49 items
- Teacher Form: 29 items

Total Score

School
Social
Mobility
Domestic
Family
Self-care

Relationship Between The RSI And Other Measures

Relationships with: Social Emotional Competency, Executive Function, Psychopathology.
Relationship Between The RSI And Other Impairment Measures

- RSI and the Barkley Functional Impairment Scale (BFIS-CA)
  - Child Sample corrected $r = .55$ to .67
  - Youth Sample corrected $r = .63$ to .71
- RSI and the Children's Global Assessment Scale (CGAS)
  - Corrected $r = -.34$ to .51

What do we mean by the term Executive Function(s)?

Executive Function(s)
- In 1966 Alexandr Luria first wrote and defined the concept of Executive Function (EF)
- He credited Bianchi (1895) and Bekhterev (1905) with the initial definition of the process
What is/are Executive Function(s)?

There is no formal excepted definition of EF

• We typically find a vague general statement of EF (e.g., goal-directed action, cognitive control, top-down inhibition, effortful processing, etc.).
• Or a listing of the constructs such as
  • Inhibition,
  • Working Memory,
  • Planning,
  • Problem-Solving,
  • Goal-Directed Activity,
  • Strategy Development and Execution,
  • Emotional Self-Regulation,
  • Self-Motivation

Does Experience Shape EF?

• The Family Life Project has demonstrated that poverty is associated with elevated cortisol in infancy and early childhood.
• This association is mediated through characteristics of the household.
• Parenting sensitivity mediates the relationship between poverty and stress physiology.
• In combination parenting sensitivity and elevated cortisol mediate the association between poverty and poor EF in children.
What Neural Activities Require EF?

• Those that involve planning or decision making.
• Those that involve error correction or troubleshooting.
• Situations when responses are not well-rehearsed or contain novel sequences of actions.
• Dangerous or technically difficult situations.
• Situations that require the overcoming of a strong habitual response or resisting temptation.

Goldstein, Naglieri, Princiotta, & Otero (2013)

• We found more than 30 definitions of EF(s).
• Executive function(s) has come to be an umbrella term used for many different abilities, including planning, working memory, attention, inhibition, self-monitoring, self-regulation and initiation carried out by pre-frontal areas of the frontal lobes.

What is Executive Function(s)

1. Barkley (2011): “EF is thus a self-directed set of actions” (p. 11).
2. Dawson & Guare (2010): “Executive skills allow us to organize our behavior over time” (p. 1).
3. Delis (2012): “Executive functions reflect the ability to manage and regulate one's behavior (p. 14).
What is Executive Function(s)

5. Gioia, Isquith, Guy, & Kenworthy (2000): “a collection of processes that are responsible for guiding, directing, and managing cognitive, emotional, and behavioral functions” (p. 1).

6. Pribram (1973): “executive programmes ...to maintain brain organization” (p. 301).
7. Roberts & Pennington (1996): EF “a collection of related but somewhat distinct abilities such as planning, set maintenance, impulse control, working memory, and attentional control” (p. 105).

6. Stuss & Benson (1986): “a variety of different capacities that enable purposeful, goal-directed behavior, including behavioral regulation, working memory, planning and organizational skills, and self-monitoring” (p. 272).
7. Welsh and Pennington (1988): “the ability to maintain an appropriate problem-solving set for attainment of a future goal” (p. 201).
What is Executive Function(s)

10. McCloskey (2006): “a diverse group of highly specific cognitive processes collected together to direct cognition, emotion, and motor activity, including ... the ability to engage in purposeful, organized, strategic, self-regulated, goal directed behavior” (p. 1)

“think of executive functions as a set of independent but coordinated processes rather than a single trait” (p. 2).

What is Executive Function(s)

10. Lezak (1995): “a collection of interrelated cognitive and behavioral skills that are responsible for purposeful, goal-directed activity,”
11. “how and whether a person goes about doing something” (p. 42).
12. Luria (1966): “... ability to correctly evaluate their own behavior and the adequacy of their actions” (p. 227).

Executive Functions
And Finally. . . .
A NICHD panel in 1994 identified 33 EFs by consensus!

The Top Six Were:
- Self-regulation
- Sequencing of behavior
- Flexibility
- Response inhibition
- Planning
- Organization of behavior

Three Categories of Theories
- Regulators that control
- Abilities (cognitive processes)
- Behaviors
A similarly named ability and behavior (e.g. planning) may only overlap to a small extent in explaining outcome.

In fact EF ability likely forms the foundation reflected in behavior, achievement, emotional regulation and socialization. The contributed variance likely is impacted by a host of other variables. Ability and knowledge interact with these variables to shape skillful behavior.

Are EF challenges associated with other psychiatric and developmental conditions?
EF and ADHD

EF deficits are not necessarily unique to ADHD. They are neither necessary nor sufficient to make a diagnosis of ADHD. When EF impairments are measured in children with ADHD they tend to reflect specific rather than global impairments.

EF and Other Disruptive Disorders (ODD & CD)

Early reviews reported that EF deficits were not characteristic of children and adolescents with ODD and CD after co-morbid ADHD was factored out. More recent studies, however, suggest that inhibition deficits may be characteristic of both ADHD and CD but whether children with CD display impairments on additional EF measures is equivocal.

EF and Tourette’s

Distinct and robust impairments in EF do not appear to be characteristic of children with TD.
EF and Anxiety Disorders

EF deficits in set-shifting, cognitive flexibility, concept formation, interference control, and verbal fluency have been documented among children with separation anxiety disorder, overanxious disorder, and PTSD. EF in OCD has not been well addressed.

EF and Depression

Scant research has been conducted on the EF abilities among youth with depression. Studies that have included older adolescents have suggested some degree of sensitivity of EF tasks in identifying unipolar depression, but less specificity.

EF and Bi-Polar Disorder

There is a growing consensus about the nature of BD among children. Several studies have targeted its EF concomitants. Although results often have been confounded with significant co-morbidity issues, children and adolescents with BD reliably have demonstrated impairments relative to those without any history of mood disorders on several EF measures (e.g. working memory, set shifting).
EF and Traumatic Brain Injury

Pragmatic and executive functions in traumatic brain injury and right brain damage: An exploratory comparative study

EF and Learning Disabilities

Working Memory Impairments in Children with Specific Arithmetic Learning Difficulties

EF Deficits and ASD

Executive Function Deficits in High-Functioning Autistic Individuals: Relationship to Theory of Mind
If all of these conditions are statistically related to behaviors and abilities reflecting EF than a common denominator must exist.

Impairment in behaviors associated with EF can have multiple etiologies often operating simultaneously.

Impaired Behavior Associated With Poor EF Can Result From:

- Lack of ability.
- Lack of knowledge.
- Lack of motivation.
- Internalizing symptoms.
- Externalizing symptoms.
- Poor impulse control.
Starting with an assessment of EF behaviors defines the real life landscape and can be used as a foundation to than explore etiologies.

Executive Function(s)

- One way to examine this issue is to research the factor structure of behaviors related to EF(s)
- To do so, we examined the factor structure of the Comprehensive Executive Function Inventory (CEFI)
- We conducted a series of research studies to answer the following question:
  - What is the underlying structure of the behaviors assessed on the CEFI?
  - Is there is just one underlying factor called executive function), or do the behaviors group together into different constructs suggesting a multidimensional structure?

CEFI Scales

Each form yields a Full Scale score and 9 separate content scales which contain items as follows:

- Consistency Index
- Negative Impression Scale
- Positive Impression Scale
- Full Scale
- CEFI scales
  - Attention
  - Emotion Regulation
  - Flexibility
  - Inhibitory Control
  - Initiation
  - Organization
  - Planning
  - Self-Monitoring
  - Working Memory
Group Differences: ADHD (Naglieri & Goldstein, 2013)

Table 6.10 Differences Between ADHD and Matched General Population Samples: CERF Full Scale

<table>
<thead>
<tr>
<th>Group</th>
<th>Parent</th>
<th>Teacher</th>
<th>Self-Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>-2.20</td>
<td>-1.90</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Control</td>
<td>1.48</td>
<td>1.90</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Group Differences: ASD (Naglieri & Goldstein, 2013)

Table 6.20 Differences Between ASD and Matched General Population Samples: CERF Full Scale

<table>
<thead>
<tr>
<th>Group</th>
<th>Parent</th>
<th>Teacher</th>
<th>Self-Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD</td>
<td>-1.09</td>
<td>-1.70</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>General</td>
<td>1.27</td>
<td>1.20</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Group Differences: Learning Disabilities (Naglieri & Goldstein, 2013)

Table 6.22 Differences Between LD and Matched General Population Samples: CERF Full Scale

<table>
<thead>
<tr>
<th>Group</th>
<th>Parent</th>
<th>Teacher</th>
<th>Self-Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD</td>
<td>1.25</td>
<td>1.20</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>General</td>
<td>1.27</td>
<td>1.20</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
Group Differences: Mood Disorders (Naglieri & Goldstein, 2013)

Table 2.1 Differences Between Mood Disorder and Related Mood Functioning Remedies. CESI Total Scale

<table>
<thead>
<tr>
<th>Type</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>T-score</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>12.0</td>
<td>5.2</td>
<td>1.11</td>
<td>29.6</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Teacher</td>
<td>11.2</td>
<td>5.1</td>
<td>1.63</td>
<td>17.7</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Self-report</td>
<td>11.6</td>
<td>5.2</td>
<td>1.89</td>
<td>26.84</td>
<td>&lt;.05</td>
</tr>
</tbody>
</table>

Todd: Journey of a Youth with ADHD

Ability and Achievement
PASS Theory

- **PASS** theory is a modern way to define 'ability' based on measuring neurocognitive abilities
- **Planning** = THINKING ABOUT THINKING
- **Attention** = BEING ALERT
- **Simultaneous** = GETTING THE BIG PICTURE
- **Successive** = FOLLOWING A SEQUENCE

The Brain as PASS

PASS: A neuropsychological approach to the Brain based on three Functional Units described by A. R. Luria (1972)

PASS Theory: Planning

- **Planning** is a neurocognitive ability that a person uses to determine, select, and use efficient solutions to problems
  - problem solving
  - developing plans and using strategies
  - retrieval of knowledge
  - impulse control and self-control
  - control of processing
Knowledge and Planning Learning Curves

- Learning depends upon instruction and intelligence (PASS)
- At first, PASS plays a major role in learning
- When a new task is learned and practiced it becomes a skill and execution requires less PASS

PASS Theory

- **Attention** is a basic neurocognitive ability we use to selectively attend to some stimuli and ignores others
  - focused cognitive activity
  - selective attention
  - resistance to distraction

PASS Theory

- **Simultaneous** processing is a basic neurocognitive ability which we use to integrate stimuli into groups and solve problems
  - Stimuli are seen as a whole
  - Each piece must be related to the others
Successive processing is a basic neurocognitive ability which we use to manage stimuli in a specific serial order.
- Stimuli form a chain-like progression.
- Stimuli are not inter-related.

PASS Theory: Successive

Ability Profiles

Organizing the Data
- A day in the life
- Ability/Knowledge/Skill
- Take a chronological perspective.
- Risk and Protective factors
- Determining eligibility
- Suggesting possible diagnoses
- Recommending needs
- Considering continuum of services
To so-called parents,

I hate your fucken guts.

Rob

You lied and said that you'd spend time with me.

Kathleen

Same with you.

I am not going to do my homework ever until I have a toy in my hand.

DEAR GOD,

I wish I could be better in school.

Can you help me.
Adopt a Learning to Ride a Bicycle Mindset!

Through intelligent and ethical educational and therapeutic practices, we can foster self-discipline, mental health, resilience, and build educational proficiency in all children without stealing away their dignity and hope.

ADOPT A LEARNING TO RIDE A BICYCLE MINDSET!
Thank You!

Sam Goldstein, Ph.D.

Questions?

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@drsamgoldstein
@doctorsamgoldstein

TEDx: https://www.youtube.com/watch?v=isiw8Lt-eWM