ADHD – Interventions for Elementary School Students

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Master’s Project
Presented to Southview Elementary Teachers, Parents & Friends on 10/21/14
Agenda

- Introductions
- What is ADHD?
  - Definition/Types
  - Executive Functions
  - Brain Development & Learning
- Interventions
  - Psychological
  - Academic
- Conclusion
- Questions
- Additional Resources
- References
Objectives

By the end of tonight you will:

- Understand what ADHD
- Understand Executive Functions
- Understand how your mindset affects your learning
- Have practical psychological and academic tools to implement immediately
- Understand that a diagnosis doesn’t define our children
Introduction - Judy

- **Background**
- **Adler Graduate Student** – Master’s in Marriage and Family Therapy
  - Presentation – partial requirement
- **Certified Parent Coach**
- **ADHD Coach**
What is ADHD?
What is ADHD?

- ADHD is a disorder of developmentally inappropriate degrees of:
  - Inattention and/or
  - Hyperactive-impulsive behavior
- Sometimes diagnosed in Childhood
- Developmental delay
- Relatively persistent and pervasive — you don’t “outgrow it”
- Creates impairment in major life activities
- ADHD is the universal term — includes ADD

Reference: Russell Barkley’s Presentation – the 12 Best principles for Managing the Child or Teen w/ ADHD – 11/5/12
ADHD Definition/Types

- According to Diagnostics Standards Manual (DSM-5)
- A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or attention as characterized by:
  - Inattention
  - Hyperactivity and impulsivity
  - Combined Type – both inattention and hyperactivity and impulsivity
Disorder of Self-Control

- Frontal Cortex - this is the area of the brain that is most impacted by ADHD
- Manages the **Executive Functions**
- Slow brain function in Frontal Cortex
- Slow Communication between Neurons

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy.
Developmental Delay

Brain Matures a few years late in ADHD but follows a normal pattern

Teachers must provide “developmentally appropriate” Supervision

Executive Functions
The brain’s conductor

Individual musicians must be managed and coordinated to play seamlessly together

Tom & Jerry Conducting

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Executive Functions
The brain's conductor

Inhibitory System (Activation & Focus)
- Stop first response (first impulses) – behavior and speech
- Stop an ongoing response even when you know it is a mistake
- Organizing, Prioritizing and Activating
- Change Directions
- Block out distractions to focus on the “boring” task at hand – Sustaining Focus

6 months - Mind’s Brakes

Working Memory (Effort)
- Hold events in mind
- Imitation
- Hindsight/foresight
- Anticipation
- Sense of Time
- Sense of Being
- Sense of Self
- Self-monitoring
- Read social cues
- Modify behavior appropriate to situation
- Aware of why you are doing, feeling
- Stop before “it goes too far”

Birth - Mind’s Eye

Self-Awareness (Effort)
- Describe & Reflect
- Follow Rules
- Problem Solving
- Reading
- Comprehension
- Feeling Judged
- Internal thought process to guide behavior

1-2 years - Mind’s Mirror

Internalization of Speech (Memory)
- Emotional self-control
- Objectivity
- Motivation
- Persistence towards goals
- Managing Frustration
- Accessing Recall

6-8 years - Mind’s Voice

Emotional Self-Regulation (Emotion)
- Verbal Fluency
- Inference
- Behavior synthesis & analysis
- Mental play
- Contemplation
- Monitoring, motivating and sustaining action

10-13 years - Mind’s Heart

14+ years - Mind’s playground

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Executive Functions

“The continuous process of attention involves organizing and setting priorities, focusing and shifting focus, regulating alertness, sustaining effort, and regulating the mind’s processing speed and output. It also involves managing frustration and other emotions, recalling facts, using short-term memory, and monitoring and self-regulating action.” (Thomas Brown)
Inhibition  
(The Mind’s Brakes)

- Conscious impulse control
- Stop & Think – React Emotionally
- Self-Restraint *(Marshmallow Test)*
- These lead to hindsight & foresight
- Block out distractions
- Getting Started - Ability to stop something that you enjoy to do something you don’t enjoy

Inhibitory System  
(Activation & Focus)  
6 Months

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Working Memory
(The Mind’s Eye)

- Immediate Memory
- Ability to hold a thought in mind
- Writing down homework
- Imitation
- Ability to visualize consequences of behavior
- Ability to predict future
- Visualize Time
- Forgetfulness

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Three Memory Forms

- **Short-term/Intermediate Memory**
  - Briefly hold information in mind – 20 sec
  - Limited capacity – 7 numbers

- **Working Memory**
  - Temporary place to store info
  - Greater than ST - approximately 30 sec

- **Long-Term Memory**
  - Where facts, ideas & skills are stored forever

Consolidation
Self-Awareness
(The Mind’s Mirror)

- Self-Monitoring
- Ability to read social cues & modify behavior accordingly
- Recognize “the look”
- Ability to stop behavior before it “goes too far”
- Aware of why you are doing something, how you feel, etc.
- Positive Illusionary Bias

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Internalization of Speech
(The Mind’s Voice)

- Internal Processing – slower processing
- 3 step instructions
- Anticipating/Prioritizing
- Hindsight/Forethought
- Verbal and Non-Verbal
- Internal Motivation – Appear to be dragging their feet
- Problem Solving

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Emotional Control
(The Mind’s Heart)

- Self-Awareness, Imagery & Internal speech lead to emotional control
- Ability to manage emotions
- Objectivity
- Ability to suppress emotions
- Match this with Self-awareness – ability to monitor emotional expression “appropriately”

Emotional Self-Regulation (Emotion)

10-13 years

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Putting it all together
(The Mind’s Playground)

- E.g. Organizing bedroom
  - overwhelming, frustrating
- Working Memory
- Internal motivation
- Organization
- Time Management – Time blindness
- Long Term Projects
- Feedback cycle - timing

Putting it all together
(14+ years)

Adapted from Russell Barkley & Thomas Brown explanation of Executive Functions. Additional contributors: Holly West Jones and Judy E Bandy
Motivation

- Behavioral Theory
- External vs Internal Motivation
- Motivation - Execution Function
- Motivation is Biological - Neurological understimulation
- More reinforcement, reward and stimulation required
- Must be externally provided

"Your kid has ADHD, Now What?" Jan Schaub, "Spark" John J Ratey, Eric Hageman
Motivation

Perform better when . . .
- Immediate reinforcement/consequences
- High rate of response
- Highly rewarding activities – computer games, hobbies, sports
- Tasks broken down
- See the endpoint

Perform worse when . . .
- Not a high rate of immediate reinforcement
- Little inherent stimulation
- Takes too long
- Too complex
- Too many steps
- Demand for sustained attention and impulse control
- Long-term consequences
ADHD/Executive Function Difficulties K-5

- Difficulty Paying attention
- Difficulty with Memorization
  - Letters, Numbers, Sight Words, Shapes
  - Math Facts
- Forgetfulness/Limited Memory
- Slow processing speed
  - Slow to understand instructions
  - Reads & Writes more slowly
  - Needs shorter-Assignments/extended time
- Impulsive
- Fine Motor Skills
Famous People w/ ADHD

- Howie Mandel
- Karina Smirnoff
- Justin Timberlake
- Ty Pennington
- Whoopi Goldberg
- Michael Jordan
- Robin Williams
- Michael Phelps
- Ann Bancroft
- Andrew Carnegie
- Walt Disney
- Malcolm Forbes
- Henry Ford
- Jamie Oliver
- Will Smith
- Jim Carrey
- Terry Bradshaw
- James Carville
- Paul Orfalea (Kinko’s)
- David Neeleman (Jet Blue)
- Pete Rose
- Ansel Adams
- Salvador Dali
- Vincent Van Gogh
- Pablo Picasso
- Prince Charles

www.famouspeoplearehuman.com/famous-people-adhd.htm
<table>
<thead>
<tr>
<th>More Famous People w/ ADHD</th>
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<tbody>
<tr>
<td>Dwight Eisenhower</td>
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<td>John F. Kennedy</td>
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<td>Alexander Graham Bell</td>
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<td>Thomas Edison</td>
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<td>Albert Einstein</td>
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<td>Benjamin Franklin</td>
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<td>Galileo</td>
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<td>Sir Issac Newton</td>
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<td>Nostradamus</td>
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<td>Leonardo Da Vinci</td>
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<td>Orville &amp; Wilber Wright</td>
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<td>Winston Churchill</td>
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<td>Bill Gates</td>
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<td>Magic Johnson</td>
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<td>Ludwig van Beethoven</td>
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<td>John Denver</td>
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<td>John Lennon</td>
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<td>Mozart</td>
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<td>Ozzy Osbourne</td>
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<td>Elvis Presley</td>
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<td>Avril Lavigne</td>
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<td>Justin Timberlake</td>
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<td>Adam Levine</td>
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<td>Kurt Cobain</td>
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<td>Adam Levine</td>
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<td>Steven Tyler</td>
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www.famouspeoplearehuman.com/famous-people-adhd.htm
What causes ADHD?

- Genetics
  - Genetic contribution 80% or more
  - No contribution of rearing environment
- 1/3 of all ADHD cases - Brain Injury

Reference: Russell Barkley’s Presentation – the 12 Best principles for Managing the Child or Teen w/ ADHD – 11/5/12
What **does not** cause ADHD

- Food Additives, Allergies, Sugar, Milk, Gluten
- Excessive caffeine
- Environmental Allergens
- Poor Parenting
- Family Stress: Chaotic Home Life
- Excessive use of TV, Video-games
- PTSD, Depression, Anxiety, Learning Disorder
- Can have ADHD **and** one of these
- These things can exacerbate ADHD symptoms

Reference: Russell Barkley’s Presentation – the 12 Best principles for Managing the Child or Teen w/ ADHD – 11/5/12
Treatments

- Proven Treatments:
  - Medication
  - Coaching/Mentoring – tools, tips, strategies
  - Parent/Teacher Education about ADHD & child management

- Emerging Treatments:
  - Mindfulness
  - Exercise
  - Habit Formation – building neural pathways

Reference: Russell Barkley’s Presentation – the 12 Best principles for Managing the Child or Teen w/ ADHD – 11/5/12
How the Brain Learns
Brain Development & Learning

- Brain Science - newest science
- Neuro plasticity
- 144 days to develop new neural pathways in Non-ADHD Brain
- How the brain learns something new

“How the Brain Changes Itself” Norman Doidge, http://www.youtube.com/watch?v=BEwg8TeipfQ
Within 24 hours we remember less than 40% of what was learned (Non-ADHD Brains)
ADHD – need more repetitions to retain

Repetition is more effective if difficult to retrieve information – building neural pathways

Constant, Consistent Reinforcement of Concepts ➔ Learning
Mindset
Mindset

- Do you believe that IQ/Intelligence is fixed?
- Do you believe your brains and talents are fixed or can you develop them?
- What’s more important Talent and brains or Attitude
- Carol Dweck
- Attitude not Aptitude = Altitude

“Mindset” - Carol Dweck,  http://www.youtube.com/watch?v=kXhbtCemsyQ
Mindset - Carol Dweck

Fixed mind-set: intelligence is static.
This leads to a desire to look smart and therefore a tendency to...

- Challenges: avoid challenges
- Obstacles: give up easily
- Effort: see effort as fruitless or worse
- Criticism: ignore useful negative feedback
- Success of others: feel threatened by the success of others

As a result, they may plateau early and achieve less than their full potential.
All this confirms a deterministic view of the world.

Growth mind-set: intelligence can be developed.
This leads to a desire to learn and therefore a tendency to...

- Challenges: embrace challenges
- Obstacles: persist in the face of setbacks
- Effort: see effort as the path to mastery
- Criticism: learn from criticism
- Success of others: find lessons and inspiration in the success of others

As a result, they reach ever-higher levels of achievement.
All this gives them a greater sense of free will.
**Fixed Mindset**

- Intelligence is fixed
- Look smart at all costs
- Effort – it should come naturally
- Hide mistakes & deficiencies
- No way to handle difficulties: Give up, become defensive, act bored, blame others
- “I won’t”

**Growth Mindset**

- Intelligence can be developed
- Learn at all costs
- Work hard, effort is key to mastery
- Capitalize on mistakes & confront deficiencies
- See difficulties as learning opportunities
- “I can’t” (ADHD) – need strategies for ADHD Brain

“Mindset” - Carol Dweck, [http://www.youtube.com/watch?v=kXhbtCemsyQ](http://www.youtube.com/watch?v=kXhbtCemsyQ)
Mindset

The Brain’s Response to Errors
Moser, Schroder, Heeter, Moran, & Lee, 2011

“Mindset” - Carol Dweck, http://www.youtube.com/watch?v=kXhbtCcmsyQ
Mindset – ADHD Brain

- Constant Criticism
- “You don’t conform”
- “You’re a behavior problem”
- “I’m Overwhelmed”
- “I’m Frustrated”
- Fixed Mindset
- Brain shuts down
- Strategies for the ADHD Brain
- “Try Again”

“Mindset” - Carol Dweck, http://www.youtube.com/watch?v=kXhbtCemsyQ
Interventions: Psychological
Succeeding in school is one of the most therapeutic things that can happen to a child!!!

--- Chris A Ziegler Dendy
Mindset – Effect of Praise

Fixed Mindset
- Turns kids off to learning
- Look Smart
- Praise the outcome
- “You are smart”

Growth Mindset
- Interested in learning
- Love challenges
- Praise the process and effort
- Notice specific things
- “You’re working hard”

“Mindset” - Carol Dweck, http://www.youtube.com/watch?v=kXhbtCemsyQ
Mindset Intervention

- You can teach Growth Mindset
- Praise the process – not the outcome
- Brain is a muscle – challenges work the muscle
- Harness the power of . . . Yet!
  - I’m not good at __________ . . . Yet!
  - I can’t do __________ . . . Yet!
  - I tried but it didn’t work . . . Yet!
- Children in one school got a “not yet” instead of a low grade

“Mindset” - Carol Dweck, http://www.youtube.com/watch?v=kXhbtCmsyQ
Change your Mindset

- Step 1. Learn to hear your fixed mindset "voice."
- Step 2. Recognize that you have a choice.
- Step 3. Talk back to it with a growth mindset voice.
- Step 4. Take the growth mindset action.

http://mindsetonline.com/changeyourmindset/firststeps/index.html
Mindset Results

Effect on Math Grades: 7th Grade

Additional Resource: Mindsets in the Classroom – Mary Cay Ricci

“Mindset” - Carol Dweck, http://www.youtube.com/watch?v=kXhbtCcmsyQ
Psychological Interventions

- Universal Goal – Significance and Belonging
  – Alfred Adler

- Encouragement

- Democratic approach to parenting and teaching

- "In order to thrive and flourish, people must master the Crucial Cs" — Alfred Adler
  - CONNECT - CAPABLE - COUNT - COURAGE

- Purpose of Misbehavior

- A misbehaving child is a discouraged child

- All behavior is communication

Alfred Adler, “Children the Challenge” Rudolf Dreikurs
Psychological Interventions

- **Encouragement**
  - Motivational difficulties are a fundamental aspect of ADHD
  - Immediate reinforcement or consequences
  - Motivation must be externally provided
  - Highlight each child’s strengths
  - School performance - not the only indicator of success
  - Successful adults

- **Report Card**
  - Knowledge
  - Homework
  - Values

“Your kid has ADHD, Now what? A Handbook for Parents, Educators and Practitioners” – Janette M. Schaub
Rewards before Punishments

“Children with ADHD are punished more often than any other group of children”

– Russell Barkley

Sometimes, adults make moral judgments about EF Deficits because . . .

Children with EF deficits look like they have made a conscious choice to be lazy and unmotivated!
Rewards before Punishments

- Misbehaving child is a discouraged child
- Most kids want to do the right thing, don’t know how
- “Catch them doing something right”
- Defiance is usually anxiety – Kirk Martin
- Punishment implies bad behavior
- Need to understand the purpose of the behavior ➔ Then give them tools to succeed

Reference: Russell Barkley’s Presentation – the 12 Best principles for Managing the Child or Teen w/ ADHD – 11/5/12, Kirk Martin – ADHD University