

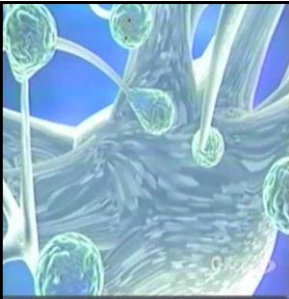
Differentiation and Play Therapy
Intervention of
ASD and ADHD in Children
Taught by
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CENTER FOR THE DEVELOPING MIND

- DIR/Floor Time™
- I.E.P. Guidance
- Regulatory Disorders
- Parent Support
- Community Outreach
- Ed./Tutorial
- Social Skills
- O.T./P.T
- Sib Groups
- Sensory Diet

Esther B. Hess, Ph.D.
Founder/Executive Director



**What is Autism
and
How Does it
Differ From
ADHD?**

**Neuronal Growth
and
Synaptic Connection**

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Examples of some changes that reflect contemporary research & conceptual modifications 4

Disorder	DSM-IV Categorization	DSM-5 Categorization/Change
Asperger's Disorder	Disorders Usually Diagnosed in Infancy, Childhood, and Adolescence	Eliminated-Integrated into Autism Spectrum Disorder
Autism	Disorders Usually Diagnosed in Infancy, Childhood, and Adolescence	Autism Spectrum Disorder-now classified as a Neurodevelopmental Disorder
ADHD	Disruptive Behavior Disorders	Change to Neurodevelopmental Disorder
Selective Mutism	Disorders Usually Diagnosed in Infancy, Childhood, and Adolescence	Anxiety Disorders
Dysthymia	Mood Disorders	Depressive Disorders-now called Persistent Depressive Disorder
Reactive Attachment Disorder	Disorders Usually Diagnosed in Infancy, Childhood, and Adolescence	Trauma and Stress Related Disorders
PTSD	Anxiety Disorders	Trauma and Stress Related Disorders

Courtesy of Kim Vander Dussen, Psy D, RPT-S

Brain Chemistry 5

Characteristic in both ASD and ADHD

- **Reduced levels of Serotonin**
- Serotonin regulates learning, memory, sensory perception, noise sensitivity, mood, behavior, sleep
- **Dysregulation in Dopamine receptors**
- Low dopamine levels impair attention and focus. High dopamine levels case the mind to race and overloads the brain's capacity to process.
- **Problems with GABA receptors**
- Interferes with mood regulation

Dr. Sonya Doherty, ND, 2013

Is it possible they are on the same spectrum? 6

Classic Autism "High Functioning" Autism ADHD?



- **Symptom similarities**
- **Personality similarities**
- **Co-morbid disorder similarities**
- **Genetic similarities**
- **Treatment similarities**

Sources: Kennedy, 2002; Anckarsater, et al. 2006; Kotte, et al. 2013; Polderman et al. 2014

A couple of broad (but accurate) generalizations:

ADHD = BIG PICTURE!

- (Forest...)

ASD = little details

- (Trees...)



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ASD, ADHD, or Both			
Behavior Issue	More Like ASD	Could be Either/Both	More like ADHD
Nonverbal difficulties	Poor eye contact; rigid posture; inexpressive face (flat affect); needs lots of personal space	Mismatched or unstylish clothes; poor hygiene and grooming; fails to read others' body language	Often touches or invades others' personal space; misses facial or body cues because of inattention
Verbal difficulties	Monotonous or odd prosody; uses words that are "wrong"; Very quiet; talks endlessly about the same subject(s); echolalia	Excessive talking; interrupts or injects self into conversations that may or may not involve them; quotes movies/TV a lot	Switches topics frequently; Makes constant ongoing comments/noises/narration; Asks people to repeat information/instructions
Perseverative Interests	Fascinated with inherent systems; stereotypical fixation on movement, objects, rules, maps, schedules; difficulty with change	Capable of focusing for hours on areas of interest; hyper-focused	Often "burns through" an interest and moves on to a new object of hyper-focus
Dangerous/Risky Behaviors	Doesn't understand the physical or social consequences/context; is hyperfocused or hyperstimulated	Seems oblivious to danger; tendency to be accused of stalking and/or harassment	Makes decisions impulsively, without taking the time to think through the consequences
Poor grades	School and schoolwork is high stress; gets caught up in the minute details and perfectionism	Learning disabilities; Dislikes school; Dislikes group work; Lots of incomplete or missing assignments	Loses assignments and materials, starts a project but doesn't finish, unable to spend the time needed

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Co-Morbidity

- Between 25%-66% of those with ADHD also demonstrate significant ASD symptoms (Mulligan, et al. 2009)
- Between 30-75% of those with ASD also demonstrate significant ADHD symptoms (Atwood, 2007; Lee & Ousley 2006)
- Actual rate of co-occurrence is unknown, but 1 in 3 is a very safe estimate!

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Diagnostic Criteria for Autism 10

From: ***Diagnostic and Statistical Manual of Mental Disorders: (DSM -5)***

The diagnosis is now called

Autism Spectrum Disorder (ASD),

and there is no longer subdiagnoses

(Autistic Disorder, Asperger Syndrome, Pervasive Developmental Disorder Not Otherwise Specified, Disintegrative Disorder).



What is Autism? DSM-5 Criteria 11

Currently, or by history, must meet criteria A, B, C, and D:

A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifested by all 3 of the following:

1. Deficits in social-emotional reciprocity
2. Deficits in nonverbal communicative behaviors used for social interaction
3. Deficits in developing and maintaining relationships.



B. Restrictive, repetitive pattern of behaviors, interests, or activities as manifested by at least two of the following: 12

B. Restrictive, repetitive pattern of behaviors, interests, or activities as manifested by at least two of the following:

- 1. Stereotyped or repetitive speech, motor movements, or the use of objects.
- 2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change.
- 3. Highly restrictive, fixated interests that are abnormal in intensity or focus.
- 4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment.



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C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities).

D. Symptoms together limits and impair everyday functioning.



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Replacing Asperger's Disorder in DSM-5

Social Pragmatic Communication Disorder (315.39)

- A. Persistent difficulties in the social use of verbal and nonverbal communication not caused by delayed cognition of language delay, as manifested by all of the following:
 1. Deficits in using communication for social purposes, such as greeting and sharing information, in a manner that is appropriate for the social context.
 2. Impairment of the ability to change communication to match context of the needs of the listener, such as speaking differently in the classroom than on the playground and avoiding use of overly formal language.
 3. Difficulties in following the rules of conversation and storytelling, such as turn taking and knowing how to use verbal and non-verbal signals to regulate interaction.
 4. Difficulty in understanding what is not explicitly stated.



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A D H D

The **ENERGY** to do anything!

The **FOCUS** to accomplish nothing!



Diagnostic Criteria for ADHD

(DSM-5 Criteria)

- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings, (e.g., at home, school or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school or work functioning.
- The symptoms do not happen only during the course of schizophrenia or another psychotic disorder. The symptoms are not better explained by another mental disorder (e.g. Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Different Subtypes of ADHD

- 1. **Combined presentation:** if enough symptoms of both criteria inattention and hyperactive-impulsivity were present for the past 6 months.
- 2. **Predominately inattentive presentation:** if enough symptoms of inattention, but not hyperactivity-impulsivity, were present for the past 6 months.
- 3. **Predominantly Hyperactive-Impulsive Presentation:** if enough symptoms of hyperactivity-impulsivity but not inattention were present for the past 6 months.

What is ADHD? *Inattentive Type*

- Six or more symptoms of inattention for children up to the age of 16
- Five or more for adolescents 17 years or older and adults

Symptoms of inattention have been present for 6 months, and they are inappropriate for developmental level

Inattentive Type Symptoms

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- 1. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
- 2. Often has trouble holding attention on tasks or play activities.
- 3. Often does not seem to listen when spoken to directly.
- 4. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, gets side-tracked).
- 5. Often has trouble organizing tasks and activities.



Inattentive Type Symptoms

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(Continued)

- 6. Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
- 7. Is often distracted,
- 8. Is often forgetful in daily activities.
- 9. Often loses things necessary for tasks and activities (e.g., school materials, pencils, books, tools, wallet, keys, paperwork, eyeglasses, mobile phone).



What is ADHD? Hyperactive Type

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- Hyperactivity and impulsivity: Six of more symptoms of hyperactivity-impulsivity for children up to age 16 years
- Five or more for adolescents 17 years and older adults

Symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level



Hyperactive Type Symptoms 22

- 1. Often fidgets with or taps hands or feet, or squirms in a seat.
- 2. Often leaves seat in situations when remaining in seat is expected.
- 3. Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
- 4. Often unable to play or take part in leisure activities quietly.
- 5. Is often "on the go" acting as if "driven by a motor".



Hyperactive Type Symptoms 23

(Continued)

- 6. Often talks excessively.
- 7. Often blurts out an answer before a question has been completed.
- 8. Often has trouble waiting his/her turn.
- 9. Often Interrupts or intrudes on others (e.g., butts into conversations or games).



Risk Factors for ASD 24

- Biological Model
- -Genetics: 15 % of the cases of autism are attributed to genetic factors
- -15-30x greater risk compared to population at large, if you have a sib with autism
- -Low birth weight and prematurity
- -Excessive levels of serotonin
- -Increase head circumference
- -Reduced corpus callosum
- -Possible connection between maternal obesity, diabetes and hypertension
- -Increased maternal and paternal age
- -Nearly 25% of those with epilepsy also have autism



Risk Factors in ADHD

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Causes of ADHD

- The exact cause of **ADHD** has not been determined. However, ADHD is thought to have a genetic component as it tends to occur among family members. Close relatives of people with ADHD have about a 5 times greater than random chance of having ADHD themselves, as well as a higher likelihood for such common accompanying disorders as **anxiety**, **depression**, **learning disabilities**, and **conduct disorder**.
- An identical twin is at high risk of sharing his twin's ADHD, and a sibling of a child with ADHD has about a 30% chance of having similar problems.
- Boys are three times more likely to be diagnosed with ADHD as children, though this ratio seems to even out by adulthood.



Diagnostic Criteria for Autism and ADHD

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For more details go to:

DSM-5:

- [The New Diagnostic Criteria For Autism Spectrum Disorders](http://autismconsortium.org/...annAC2012Symposium.pdf)
<http://autismconsortium.org/...annAC2012Symposium.pdf>
- <http://www.dsm5.org/Documents/Autism%20Spectrum%20Disorder%20Fact%20Sheet.pdf>
- [DSM-5 News and Updates | Autism Speaks](http://www.autismspeaks.org/what-autism/dsm-5)
<http://www.autismspeaks.org/what-autism/dsm-5>



Diagnostic Criteria for Autism and ADHD

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(continued)

For more details go to:

DSM-5:

- Attention Deficit/Hyperactivity Disorder-DSM-5
- www.dsm5.org/Documents/ADHD_Fact_Sheet.pdf
- DSM-5 criteria for ADHD-ADD Resource Center
 - www.addrc.org/dsm-5-criteria-for-adhd





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- ©Iared Stewart, M.Ed.

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DEAL with Inappropriate Behaviors

- **D**etermine Context
 - ABC's (antecedent, behavior, consequences)?
 - Sensory/Biological factors?
 - Purpose of behavior?
- **E**xplore Causes
 - Comprehension or communication deficits
 - Physical/Biological Factors (health, pain, comorbid, etc.)
 - Sensory Factors (hyper/hypo stimulation, boredom, etc.)
- **A**lleviate Behavior (using intervention strategies)
 - Facilitate Communication! (student, family, & educational team)
 - Teach social/emotional coping skills as well as academic skills
 - Therapy as necessary

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DIR[®]/Floor Time[™] Model

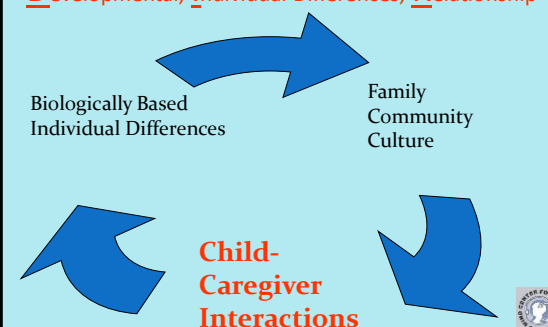
An Intervention for Children Impacted by Autism Spectrum Disorder & ADHD



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DIR[®]/Floor Time[™] Model

Developmental, **I**ndividual Differences, **R**elationship



Biologically Based Individual Differences

Family Community Culture

Child-Caregiver Interactions



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Developmental, Individual Differences, Relational Based Model (DIR[®])

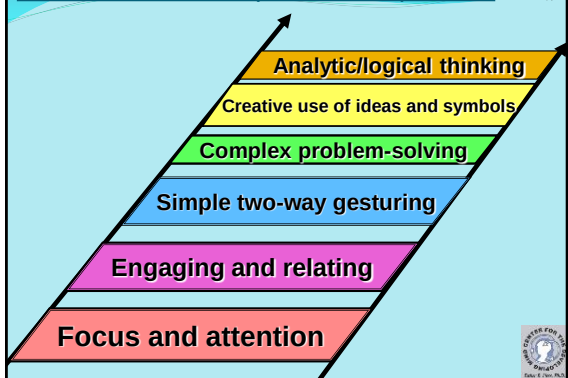
- I: **D** = **Functional Emotional Developmental Levels**
- II: **I** = **Individual Differences**
- III: **R** = **Relationship and Affect**

(A Developmental/Relationship Model)



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Functional Developmental Capacities



- Analytic/logical thinking
- Creative use of ideas and symbols
- Complex problem-solving
- Simple two-way gesturing
- Engaging and relating
- Focus and attention



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What are the primary challenges to an interaction?

- On the part of the therapist:** Level of comfort with the child's themes and feelings. Do you deepen or deflect?
- On the part of the child:** Avoidant, disengaged, poor communication, poor motor planning, passive, low tone, hyperactive, poor symbolic, fragmented, anxious.
- On the part of the parent:** Takes over the lead, changes topics, controls child's body, over-relies on sensory motor activities, misses cues, lacks affect, poor timing, concrete, works below level, works above the child's level, anxious, depressed.

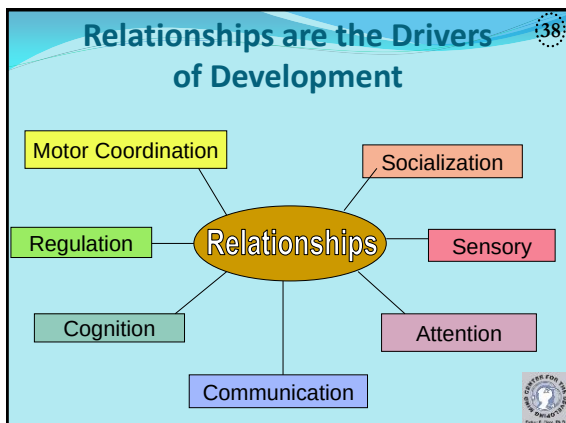


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I = Individual Differences

- A. Auditory processing
- B. Visual-spatial processing
- C. Tactile processing
- D. Motor planning and sequencing, muscle tone, and coordination
- E. Sensory modulation, including tactile, sound, vestibular, proprioceptive, olfactory, taste, pain, and sight
 1. Hyper-sensitive in each sensory modality
 2. Hypo-sensitive in each sensory modality
 3. Mix Profile



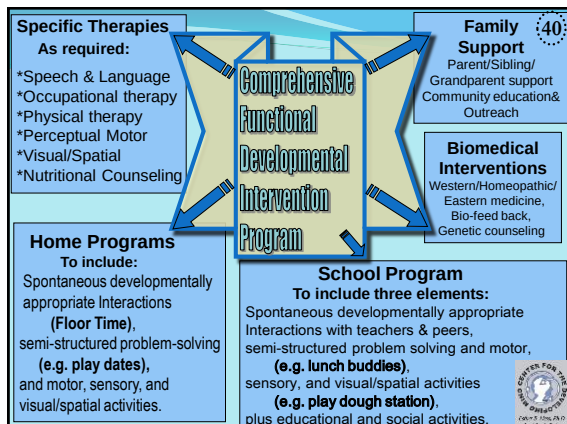


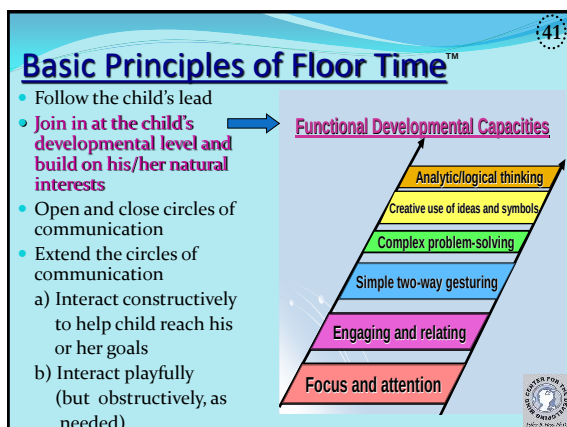
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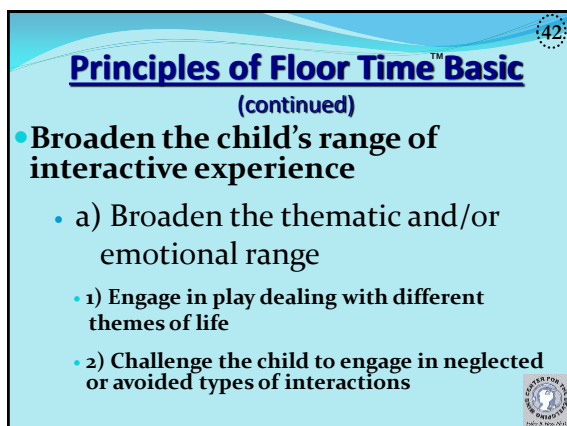
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Principles of Floor Time™ Basic

(continued)

- Tailor your interactions to the child's individual neurological differences → **CNS Processing Capacities**
 - *Auditory Processing and Language
 - *Visual-Spatial Processing
 - *Motor Planning and Sequencing
 - *Sensory Modulation



Basic Principles of Floor Time™

- I: Follow the child's lead
- II: Join in at the child's developmental level and build on his/her natural interests
- III: Open and close circles of communication
- IV: Create a play environment
- V: Extend the circles of communication
- VI: Broaden the child's range of interactive experience
- VII: Tailor the interaction to the child's individual differences
- VIII: Simultaneously attempt to mobilize the six functional developmental levels



Additional Strategies to Support Regulation

- Use music to up or down regulate
- Occupational Therapy that organizes neurophysiology
- Visual aid for direction with the ability to check off the schedule
- Having children be the helper and letting them tell you what's going on
- Putting children in laps for grounding purposes
- Chewing/sucking on hard foods for organization



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Biomedical Interventions for ASD

Working with a medical facilitator

- SSRI's
- Tricyclic Anti-depressants
- Anti- seizure medication
- Steroids
- Atypical antipsychotic medication

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Pharmacotherapy for ADHD

- Methylphenidate (brand name: Concerta, Methylin, Medikinet, Ritalin, Equasym VL and Quillivant XR)
- Amphetamine/phenethylamine (brand name: Adderall)
- Atomoxetine (brand name: Strattera)
- Guanfacine (brand name: Estulic, Tenex, and Intuniv).

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DIR[®] Research & Evidence

- Sealy & Glovinsky, 2016
- Solomon, et. Aaria, 2014
- Cassenheiser, Shanker & Steiben, 2011
- Lal & Chhabria, 2013
- Pajareya & Kopmaneejumruslers, 2011

Randomized control studies published since 2011 identifying statistically significant improvement in children with autism who used DIR/Floor Time



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Case Studies

Supporting the Use of DIR[®]/Floor Time

- Dionne and Martinni, 2011
- Weider and Greenspan, 1997 & 2005

Studies support the long lasting results DIR/Floor Time had on individual child skills, as well as, the emotional connections the families were able to develop over time using this approach.



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DIR/Floor Time as Listed in Evidence Based Treatment Reviews

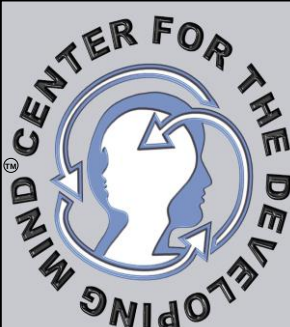
- Smith & Iadarola, 2015. "Evidence Based Update for Autism Spectrum Disorder" in the Journal of Clinical Child and Adolescent Psychology".

DIR/Floor Time is characterized as developmental social pragmatic parent training (DSP) and is listed as a second level evidence based category indicating 'probable efficacious'.



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