


 JAMES COPLAN, M.D.
Neurodevelopmental Pediatrician • Author • Speaker
Making Sense of Autistic Spectrum Disorders



**Making Sense of Autistic Spectrum Disorders, and
Mental Health Issues in ASD**

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The voice and vision of special education

January 21, 2014

Outline

Clinical Features and Natural History of ASD [8:30 -10:00 a.m.]

- Leo Kanner's lasting contributions
- Behavior Management
 - Psychopharmacology for non-medical professionals
 - Behaviorism and Its Limitations


Break [10:00 – 10:15]

Mental Illness in ASD: The Elephant in the Room [10:15 – 11:30]

- Neuropsychiatric Co-Morbidity
- Family function / dysfunction
- Does ASD predispose to violent crime?
- Proposed care model

Disclosures

- Dr. Coplan is author of *Making Sense of Autistic Spectrum Disorders: Create the brightest future for your child with the best treatment options* (Bantam-Dell, 2010), and receives royalties on its sale



- This presentation will include a discussion of off-label drug use

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Outline

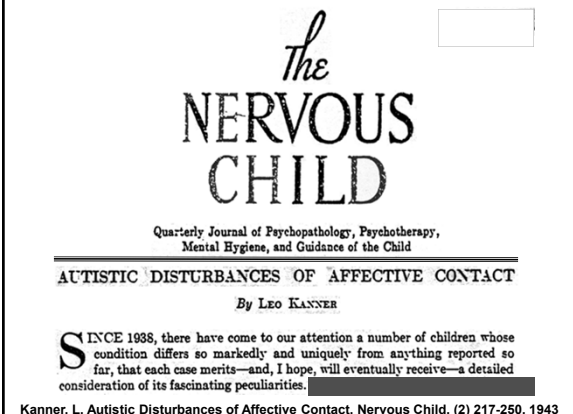
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The
**NERVOUS
CHILD**

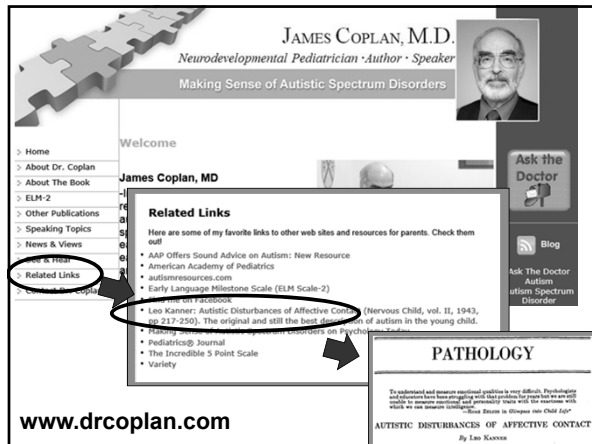
Quarterly Journal of Psychopathology, Psychotherapy,
Mental Hygiene, and Guidance of the Child

AUTISTIC DISTURBANCES OF AFFECTIVE CONTACT

By LEO KANNER

SINCE 1938, there have come to our attention a number of children whose condition differs so markedly and uniquely from anything reported so far, that each case merits—and, I hope, will eventually receive—a detailed consideration of its fascinating peculiarities.

Kanner, L. Autistic Disturbances of Affective Contact. *Nervous Child*, (2) 217-250, 1943
www.drcoplan.com



Kanner, 1943

- N = 11 (M 8; F 3)
- Age: 2 to 8 yr.
- Symptoms in four domains:
 1. Impaired socialization
 2. Idiosyncratic language
 3. Repetitious behaviors
 4. Unusual responses to sensory stimuli

Kanner, L. Autistic Disturbances of Affective Contact. Nervous Child, (2) 217-250, 1943
www.drcoplan.com

Impaired Socialization

- “Aloof”
- “Withdrawn”
- Limited eye contact
- Indifferent to others

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Idiosyncratic Language

- Echolalia
- Delayed Echolalia
- Pronoun Reversal
- Odd inflection

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Repetitious Behaviors

- Rigid Routines
- Stereotypies
- Lining up / spinning objects

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Unusual sensory responses

- “Petrified of vacuum cleaner”
- Drawn to, or afraid of, spinning objects
- Mouthing behavior
- Ingesting inedible materials
- Food selectivity

www.drcoplan.com

Kanner, 1938 → 1943

- Gradual improvement in early childhood
 - Social skills
 - Language
 - Cognitive flexibility
 - Sensory Aversions

www.drcoplan.com

Kanner, 1938 → 1943

“Between the ages of 5 and 6 years, they gradually abandon echolalia and learn spontaneously to use personal pronouns.

“Language becomes more communicative, at first in the sense of a question-and-answer exercise, and then in the sense of greater spontaneity of sentence formation....

Kanner, L. Autistic Disturbances of Affective Contact. Nervous Child, (2) 217-250, 1943

www.drcoplan.com

Kanner, 1938 → 1943

“Food is accepted without difficulty. Noises and motions are tolerated more than previously. The panic tantrums subside. The repetitiousness assumes the form of obsessive preoccupations...

Kanner, L. Autistic Disturbances of Affective Contact. Nervous Child, (2) 217-250, 1943

www.drcoplan.com

Kanner, 1938 → 1943

“Reading skill is acquired quickly, but the children read monotonously, and a story or a moving picture is experienced in unrelated portions rather than in its coherent totality...*

* “*Central coherence*”

Kanner, L. Autistic Disturbances of Affective Contact. Nervous Child, (2) 217-250, 1943

www.drcoplan.com

Kanner, 1938 → 1943

“Between the ages of 6 and 8, the children begin to play in a group, still never with the other members of the group, but at least on the periphery alongside the group.

Kanner, L. Autistic Disturbances of Affective Contact. Nervous Child, (2) 217-250, 1943

www.drcoplan.com

Kanner, 1938 → 1943

“People are included in the child's world to the extent to which they satisfy his needs...

Kanner, L. Autistic Disturbances of Affective Contact. Nervous Child, (2) 217-250, 1943

www.drcoplan.com

Kanner, 1938 → 1943

All of this makes the family feel that, in spite of recognized 'difference' from other children, there is progress and improvement.

Leo Kanner, 1943

Kanner, L. Autistic Disturbances of Affective Contact. *Nervous Child*, (2) 217-250, 1943
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Natural History: "The temporal course a disease from onset to resolution"

Center for Disease Control & Prevention

ASD has a *Natural History*

www.drcoplan.com

Quantifying severity of ASD, and changes over time



Clinical Domain • Social • Language • Repetitious Behavior • Sensory	Decreasing Atypicality → Increasing Age →		
	Severe / Youngest	Moderate / Older	Mild / Older

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Social Interaction

"Our child is *among* us, but not *with* us."

Parent of a 4 year old with ASD

www.drcoplan.com



Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
1. Social Interaction	<ul style="list-style-type: none"> •No eye contact •No physical affection •Cannot be engaged in imitative tasks 	<ul style="list-style-type: none"> •Intermittent eye contact •Seeks affection "on his own terms" •May invade personal space of others (not true affection) •Engageable in imitative tasks, although with difficulty 	<ul style="list-style-type: none"> •Good eye contact •Shows interest in others, but often does not know how to join in •Easily engaged in imitative activities •Rigid; has difficulty if perceives that rules have been broken •Difficulty with "Theory of Mind" tasks

www.drcoplan.com



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Theory of Mind

- Realization that other people have an internal mental & emotional state, different from one's own
- Ability to gauge the internal mental & emotional state of others
 - Able to infer motives & predict behavior of others
 - Empathy
 - Humor

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Theory of Mind



*How does the boy feel?
Why?*

www.drcoplan.com

Theory of Mind



Q: How does the boy feel?
A: "I don't know, because I can't see his mouth."

www.drcoplan.com



Language

"My child talks, but he doesn't communicate."

Mother of a 3 year old with autism

www.drcoplan.com

Language Deficits in ASD

- **Pragmatics:** Use of language for the purpose of social interaction
 - Framing
 - Topic maintenance, Turn taking
 - Conversational repair
 - Impaired Pragmatics:
 - Echolalia, delayed echolalia (“scripting”)
 - Lack of framing
 - Off-topic responses
 - Person talks “at” rather than “with” partner

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Language Deficits in ASD

- **Prosody:** Tone, Pitch, Volume
 - Stilted
 - Sing-song
 - Robotic
 - Pedantic
 - Overly loud
 - Difficulty “reading” prosodic cues of others
[Difficulty with nonverbal cues (body language)]

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Quantifying severity of ASD - 2

Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
2. Language •Pragmatics •Prosody	<ul style="list-style-type: none"> •Nonverbal •No response to voice; may “act deaf” •No use of gestures as a means of compensating for absence of spoken language •May use “hand-over-hand” to guide caregiver to desired objects 	<ul style="list-style-type: none"> •Echolalia, Delayed echolalia •Verbal Perseveration •Odd Inflection (stilted, sing-song, ↗ volume) •May use stock phrases in an attempt to communicate •Makes use of visual communication modalities (symbol cards; sign language) 	<ul style="list-style-type: none"> •Speaks fluently, but literal; lacks understanding of verbal nuance •Difficulty with Pragmatics (framing, turn-taking, topic maintenance; conversational repair; talks “at” rather than “with” others) and Theory of Mind language tasks (fibbing; humor, verbal make-believe)

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Literal



Q: Who lives in a tree?
A: Nobody lives in a tree!
Q: What *animals* live in a tree?
A: Birds, squirrels....

Theory of Mind

Camping

Six boys put up a tent by the side of the river. They brought things to eat with them. When the sun went down, they went into the tent to sleep. In the night, a cow came and began to eat grass around the tent. The boys were afraid. They thought it was a bear.

Q: Is this a sad story, a scary story, or a funny story?

- A *scary* story, because the boys were scared. (PDD-NOS)
- It was a most *unusual* story, because you don't often find cows in the woods. (Asperger Syndrome)

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Repetitious Behavior

“My child has over-attention deficit disorder.”

Father of a 10 year old with autism and perseverative behavior

Quantifying severity of ASD - 3

Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
3. Repetitious Behaviors <i>Cognitive Rigidity</i>	<ul style="list-style-type: none"> • Extreme distress if routines are changed or when required to transition from one task to another • Fascination with odd objects (tags, wheels, fans, etc.) 	<ul style="list-style-type: none"> • Same, but with diminishing level of distress; able to accept verbal preparation for changes in routine • Complex repetitious play (lining up objects, memorizes numbers, letters, etc) 	<ul style="list-style-type: none"> • May demonstrate conscious awareness of preference for routines; easier to self-modulate • Play remains repetitious, but repetitive quality is more subtle; “obsessive preoccupations” • Problems with Central Coherence
<i>Motoric</i>	<ul style="list-style-type: none"> • Frequent, intense stereotypical movements (flapping, spinning, toe-walking, finger twiddling) 	<ul style="list-style-type: none"> • Motor stereotypies occasional; may re-emerge when excited 	<ul style="list-style-type: none"> • Motor stereotypies rare or absent

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Quantifying severity of ASD - 3

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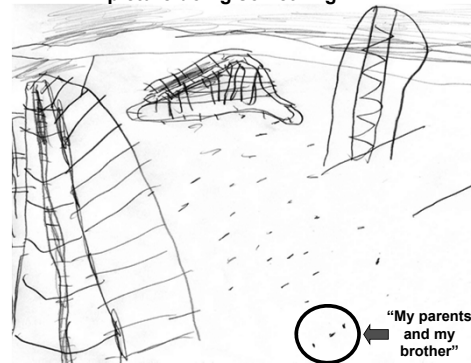
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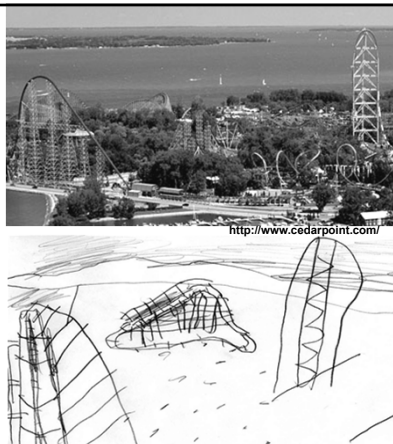


"Draw a picture of your family, with everybody in the picture doing something."



"Cedar Point Park, with the ocean and Canada in the background."
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Central Coherence

- Ability to see "the big picture" rather than a collection of individual elements

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**Tasks requiring Central Coherence
(in addition to Theory of Mind)**

What's happening in this picture?



What's happening in this picture?



"The man is drowning."

What's happening in this picture?



"The man is swimming, and the car is about to fall on him."

What's happening in this picture?



What's happening in this picture?



"Two strangers got into the house and are handing out newspapers."

What's happening in this picture?

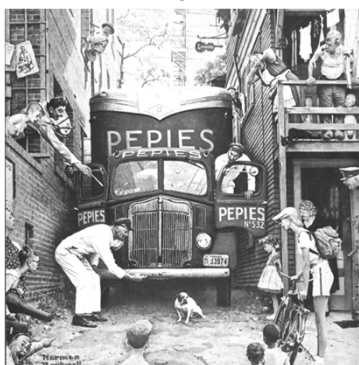


What's happening in this picture?

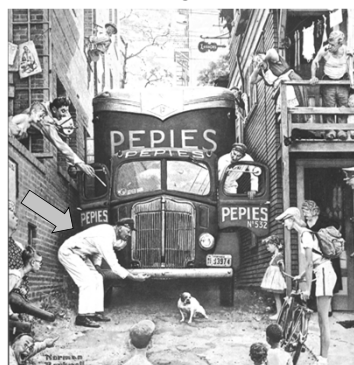


"That girl is trying to steal the other girl's book."

What's happening in this picture?



What's happening in this picture?



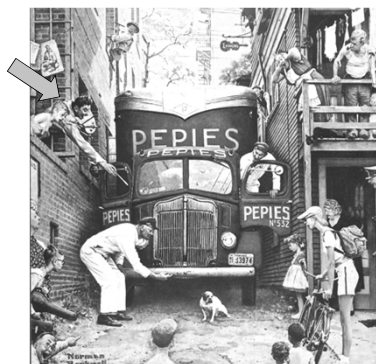
"The man is trying to fix the truck."

What's happening in this picture?



"The man is playing with his dog. The truck can't go because all the people are in the way."

What's happening in this picture?



"He's cleaning the truck. The driver is distressed because it's taking so long."

13-0833

Repetitious behavior in ASD

- A direct expression of the underlying biology
 - Cognitive Rigidity
 - Stereotypies
- Stress relief
- A coping mechanism, to offset deficits in Theory of Mind & Central Coherence
 - “Better the devil you know...”



Sensory & Motor Processing

Quantifying severity of ASD - 4

Clinical Domain ↓	Decreasing Atypicality / Increasing Age ⇒		
	Severe / Youngest	Moderate / Older	Mild / Older
4. Sensorimotor: • Intense aversion or attraction to specific classes of stimuli • Clumsiness	<ul style="list-style-type: none"> • Auditory: Hyperacusis; covers ears, acts deaf • Visual: self-stimulation (lights/patterns); looks at objects from odd angles • Tactile: rubbing, licking, mouthing, deep pressure; averse to light touch • Olfactory: Sniffing • Extreme food selectivity • Pain threshold • Fears: Heightened / blunted 	Same, but diminishing intensity	Same, but diminishing intensity

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Abnormal responses to sensory stimuli



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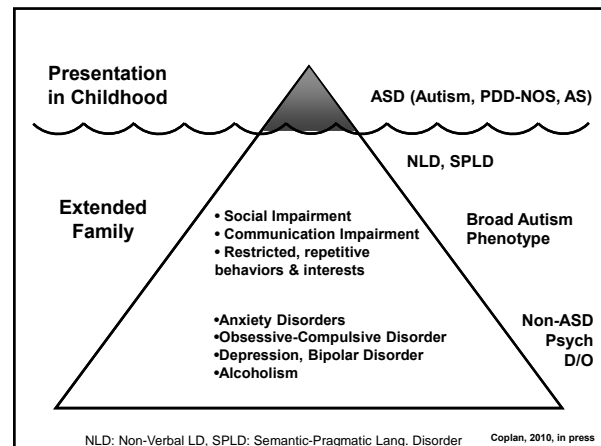


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Kanner 1943

It is not easy to evaluate the fact that all of our patients have come of highly intelligent parents. This much is certain, that there is a great deal of obsessiveness in the family background. The very detailed diaries and reports and the frequent remembrance, after several years, that the children had learned to recite twenty-five questions and answers of the Presbyterian Catechism, to sing thirty-seven nursery songs, or to discriminate between eighteen symphonies, furnish a telling illustration of parental obsessiveness.

One other fact stands out prominently. In the whole group, there are very few really warmhearted fathers and mothers. For the most part, the parents, grandparents, and collaterals are persons strongly preoccupied with abstractions of a scientific, literary, or artistic nature, and limited in genuine interest in people. Even some of the happiest marriages are rather cold and formal affairs. Three of the marriages were dismal failures. The question arises whether or to what extent this fact has contributed to the condition of the children. The children's aloneness from the beginning of life makes it difficult to attribute the whole picture exclusively to the type of the early parental relations with our patients.



Kanner 1943

We must, then, assume that these children have come into the world with innate inability to form the usual, biologically provided affective contact with people, just as other children come into the world with innate physical or intellectual handicaps. If this assumption is correct, a further study of our children may help to furnish concrete criteria regarding the still diffuse notions about the constitutional components of emotional reactivity. For here we seem to have pure-culture examples of *inborn autistic disturbances of affective contact*.*

Kanner's contributions

- **Clinical Description**
 - Social, Language, Repetitious behavior, & Sensory aversions / attractions
- **Described the *Natural History* of improvement over time (irrespective of treatment)**
- **Attribution: An “inborn disturbance of affective contact”**

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Outline

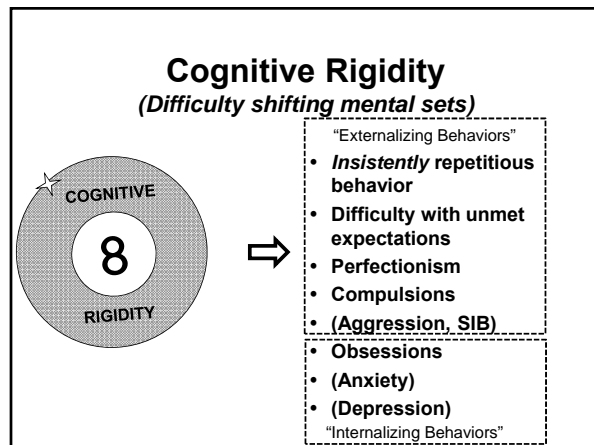
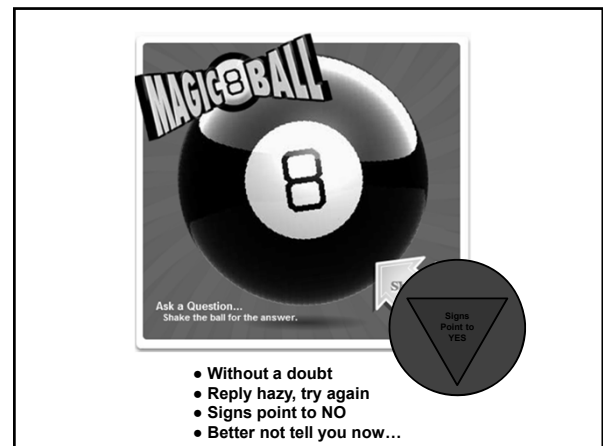
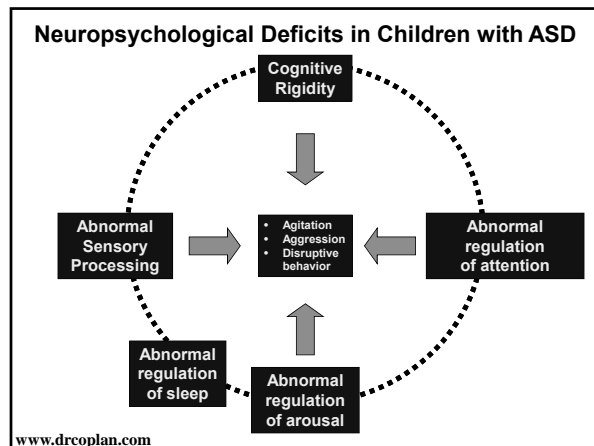
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Break [10:00 – 10:15]

Mental Illness in ASD: The Elephant in the Room [10:15 – 11:30]

- Neuropsychiatric Co-Morbidity
- Family function / dysfunction
- Does ASD predispose to violent crime?
- Proposed care model



Cognitive Rigidity → Anxiety → Disruptive Behavior

"Our son experiences extreme anxiety when what he anticipates isn't what happens...When we know a change is coming we can prepare him, but those we can't anticipate are still very upsetting for him...The switch flips in his mind, and it's out of his control."

6 y.o. boy with ASD, anxiety, and normal nonverbal IQ

MRN 12-0782

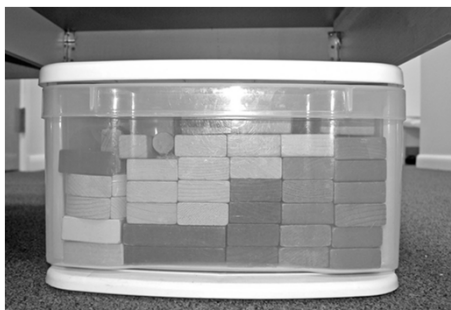
IDEA

- IDEA requires the IEP to address "behavior that impedes child's learning or that of others" (IDEA Section 614(d)(2)(B))
- In practice, this section of IDEA is usually applied only to *externalizing behaviors*

Perfectionism



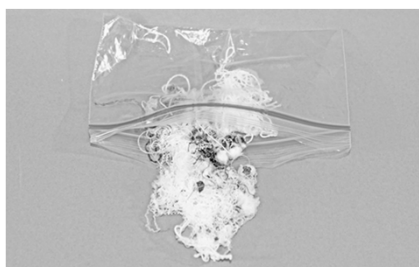
Perfectionism



Perfectionism



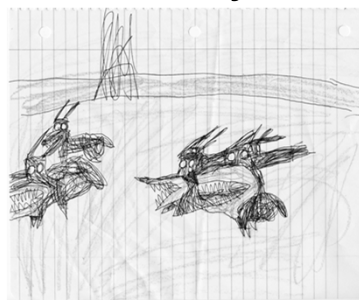
Compulsions



Joseph F: 15 y.o. boy Asperger Syndrome

MRN: 05-0096

Anxiety

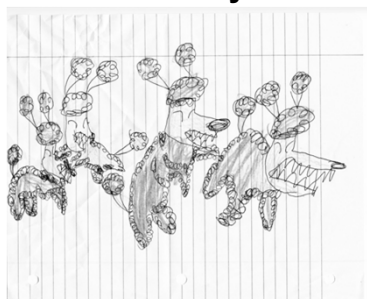


RD. 7 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD

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MRN: 07-0427

Anxiety

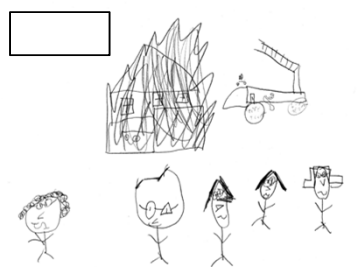


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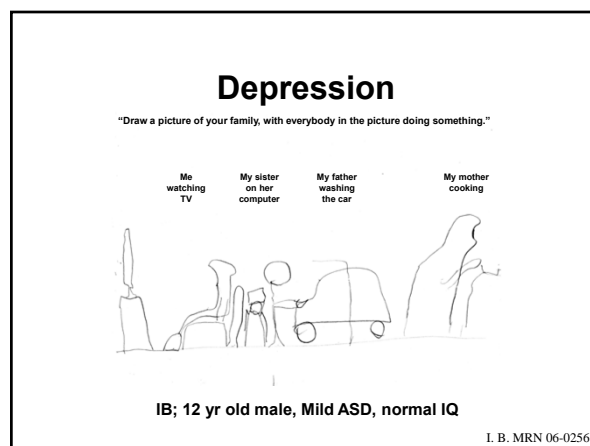
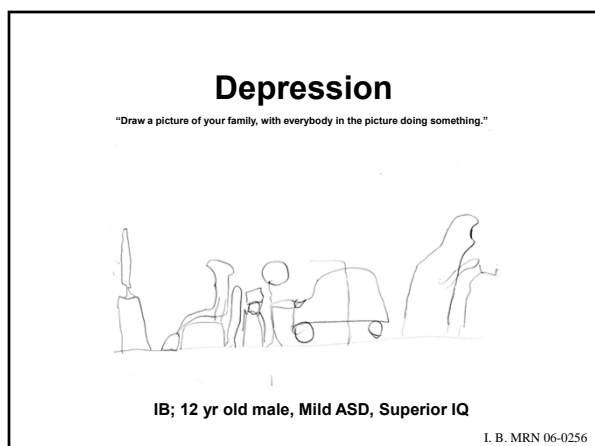
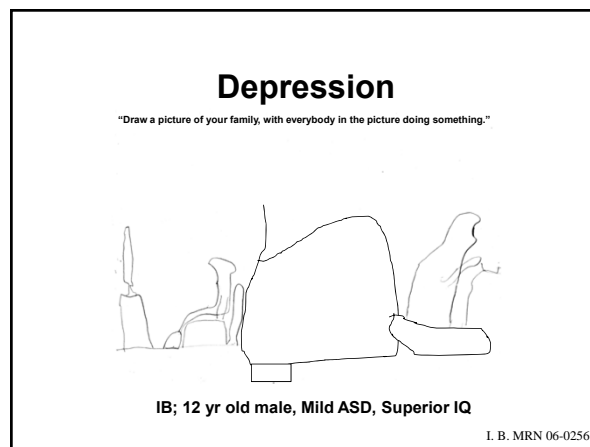
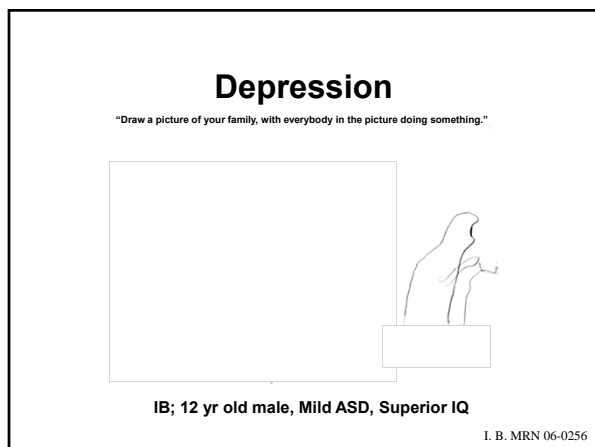
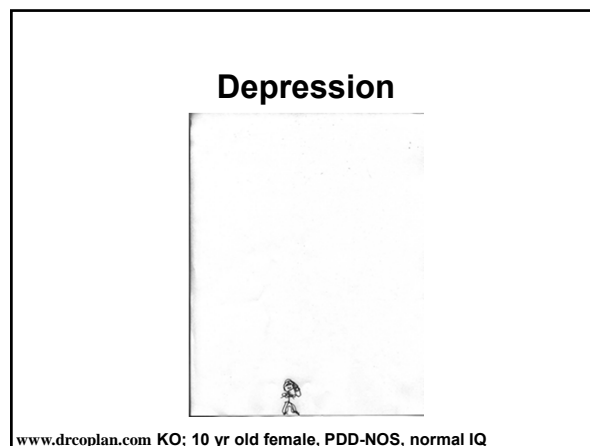
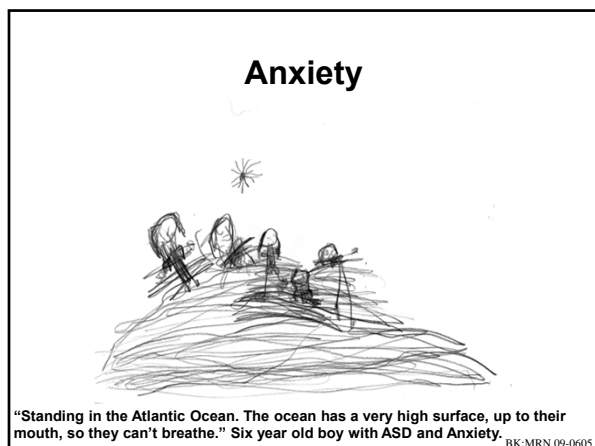
MRN: 07-0427

Anxiety

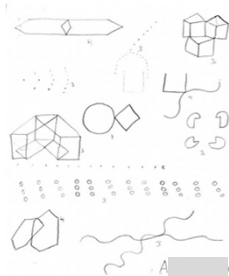


"The house is on fire and we are running for our life."

A.W.: 9 year old boy with PDD-NOS and normal IQ (MRN 11-07710)



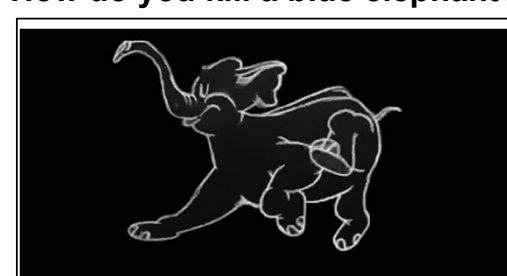
Anxiety, Perfectionism, and Self-Injurious Behavior



Standard Score: 138


A.D. : 9 y.o. girl with ASD (my MRN: 06-0227)
Throughout the session, "Alice" delivered a steady stream of self-deprecating comments, calling herself "stupid," or perseveratively asking if she was "fat." During the Bender, she anxiously and angrily twisted the eraser off the tip of the pencil, while declaring "Why do I keep making stupid mistakes?" As her stress level rose, she escalated to slapping herself, and then punching herself in the face.

How do you kill a blue elephant?




Shoot it with a blue elephant gun.

How do you kill a pink elephant?

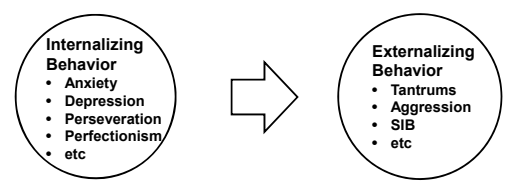


How do you kill a pink elephant?



Hold it by the trunk until it turns blue, then shoot it with a blue elephant gun.

Unaddressed internalizing behavior often leads to externalizing behavior



Internalizing Behavior

- Anxiety
- Depression
- Perseveration
- Perfectionism
- etc

Externalizing Behavior

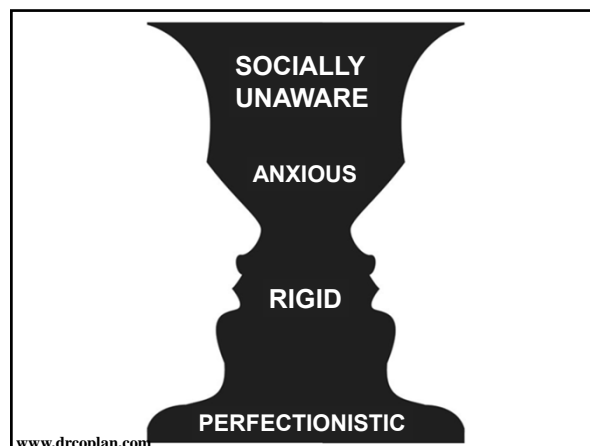
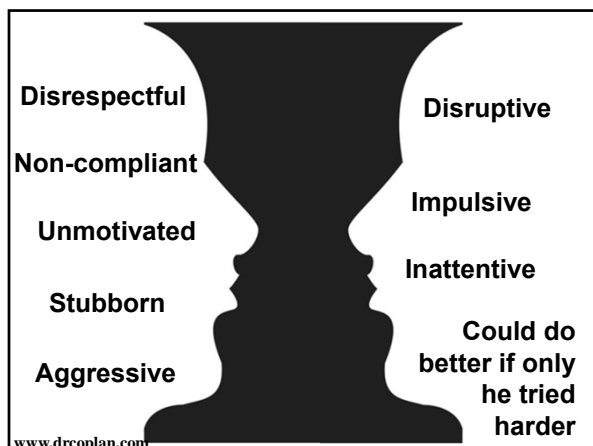
- Tantrums
- Aggression
- SIB
- etc

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Positive Behavior Support Plan for Internalizing Behavior

- **Staff Awareness**
- **Visual Schedules**
 - What am I supposed to be doing do *now*?
 - What am I supposed to do *next*?
- **Relaxation Techniques**
 - Mental Imagery
 - Isometrics
 - Deep Breathing
 - "Break" cards
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

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Behaviorism's Blind Spot

- BCBA's do not adequately address "internalizing behavior."

Not seeing the vase (ignoring internalizing behavior)

ASSESSMENT SUMMARY:

Antecedents to the behavior of concern	Behavior of concern	Consequences maintaining the behavior of concern	Perceived function of the behavior of concern
Denied Access Transitioning Task demand (individual) Social situations (competitive)	Tantrum (4 levels) Level of Tantrums: 1. Isolation tantrum: eloping from adults or from the classroom/assigned area, not responding or refusing staff prompting 2. Low Frustration tantrum: clenching fists, stomping feet, grunting, whining, crumpling/bending objects, or crying. 3. Physical tantrum: aggression is defined	anxiousness entering into regular education classroom increased academic standards difficulty maintaining focus on instructor and tasks limited time frames for task completion increased expectations for written work	To gain Attention To avoid, escape, or postpone academic tasks/expectations

www.drcoplan.com MW; MRN 06-0211

Seeing the vase (recognizing internalizing behavior)

ASSESSMENT SUMMARY:

Antecedents to the behavior of concern	Behavior of concern	Consequences maintaining the behavior of concern	Perceived function of the behavior of concern
Denied Access Transitioning Task demand (individual) Social situations (competitive)	Tantrum (4 levels) Level of Tantrums: 1. Isolation tantrum: eloping from adults or from the classroom/assigned area, not responding or refusing staff prompting 2. Low Frustration tantrum: clenching fists, stomping feet, grunting, whining, crumpling/bending objects, or crying. 3. Physical tantrum: aggression is defined	anxiousness entering into regular education classroom increased academic standards difficulty maintaining focus on instructor and tasks limited time frames for task completion increased expectations for written work	To gain Attention To avoid, escape, or postpone academic tasks/expectations

Antecedents Anxiousness Perfectionism Fear of Failure	Behaviors Tantrums Eloping Task Refusal	Consequences Temporary reduction in anxiety via task avoidance	Perceived Function Avoidance of self-blame for not completing the task perfectly
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www.drcoplan.com MW; MRN 06-0211

The Story of Billy's Box - 1 (or, why it's important to ID internalizing behavior)

- 8 y.o. boy with ASD and normal Nonverbal IQ
- Severe tantrums at school
- Antecedents:
 - TRANSITIONS
- Function?
 - Not attention, escape, access
 - "Biological" (i.e. "just part of his ASD")?

The Story of Billy's Box - 2

(or, why it's important to ID internalizing behavior)

Q: "Billy – You're always getting in trouble at school. What's going on?"

A: "I'm afraid that if I hand in my work, I'll never get a chance to go back and make it perfect."

The Story of Billy's Box - 3

(or, why it's important to ID internalizing behavior)



"Put your papers in the box, and we promise you will be able to go back later and work on them some more, if you want to."

Positive Behavior Support Plan for Internalizing Behavior

- **Staff Awareness**
- **Visual Schedules**
 - What am I supposed to be doing *do now?*
 - What am I supposed to do *next?*
- **Relaxation Techniques**
 - Mental Imagery
 - Isometrics
 - Deep Breathing
 - "Break" cards
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

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Visual Schedules



Positive Behavior Support Plan for Internalizing Behavior

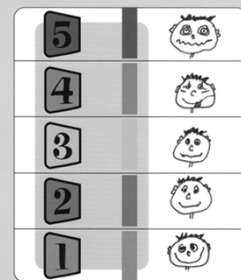
- **Staff Awareness**
- **Visual Schedules**
 - What am I supposed to be doing *do now?*
 - What am I supposed to do *next?*
- **Relaxation Techniques**
 - Mental Imagery
 - Isometrics
 - Deep Breathing
 - "Break" cards
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

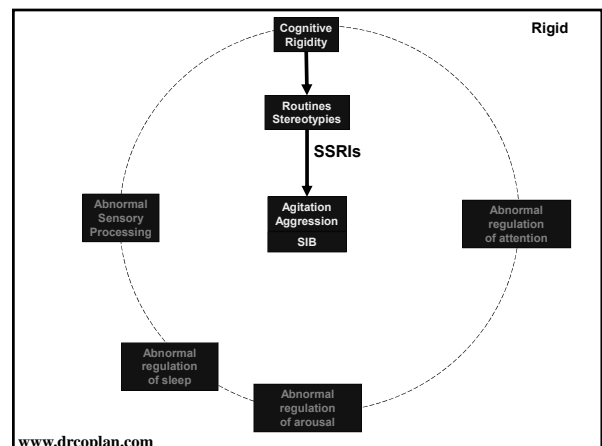
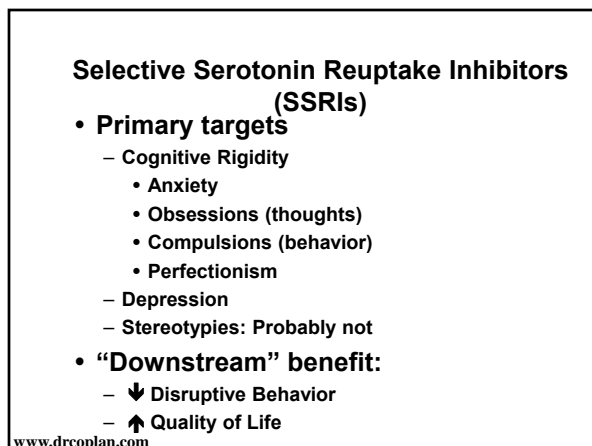
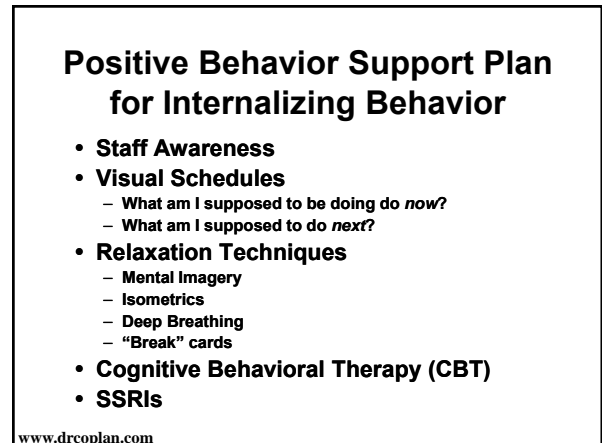
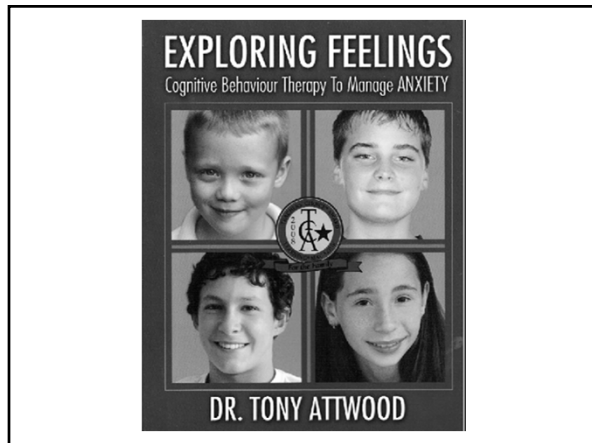
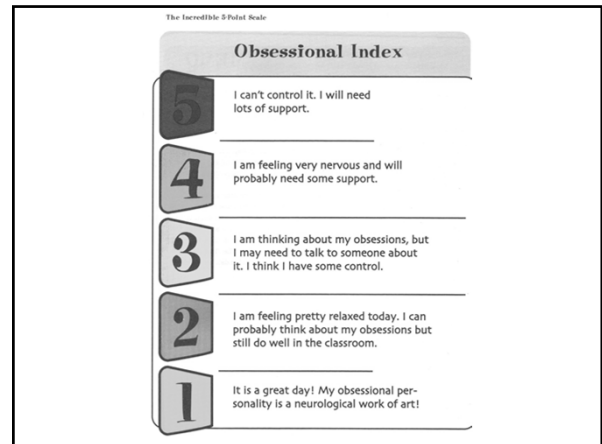
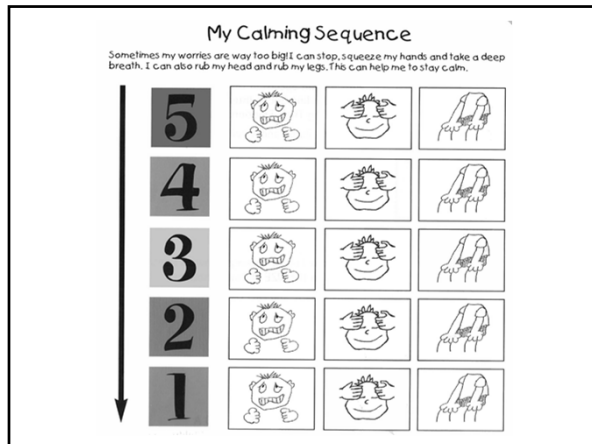
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The Incredible 5-Point Scale

Assisting students with autism spectrum disorders
in understanding social interactions
and controlling their emotional responses

Kari Dunn Buron and Mitzi Curtis





SSRIs in ASDs

- Side Effects
 - Activation
 - Hyperactivity
 - Irritability
 - Insomnia
 - Agitation
 - Uncommon or irrelevant
 - GI dysfunction
 - Sexual dysfunction
 - “Black Box” warning (suicidal mentation)

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Selective Serotonin Reuptake Inhibitors (SSRIs)

Generic Name	Brand Name	Comment
Fluoxetine	Prozac	• The first selective SRI
Fluvoxamine	Luvox	
Sertraline	Zoloft	• May be less activating
Citalopram	Celexa	• Prolonged QT interval
Escitalopram	Lexapro	• Prolonged QT interval
And others...		

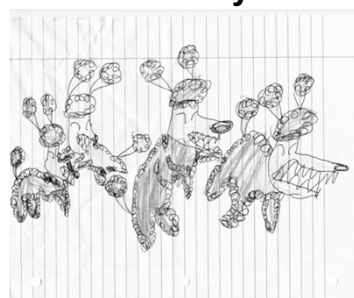
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Pharmacotherapy for anxiety disorders in children and adolescents

Ipsier JC, Stein DJ, Hawkrigge S, Hoppe L. Cochrane Database of Systematic Reviews 2009, Issue 3.

- Studies reviewed: 22 RCTs/ 2,519 participants
 - Short-term (average 11 wks)
 - Mean age 12 yrs
 - Drugs studied (versus placebo)
 - SSRIs :15 (fluoxetine 6, fluvoxamine 2, paroxetine 3, sertraline 4)
 - SNRIs: 5, (clomipramine 3), venlafaxine 2)
 - Benzodiazepines: 2: (alprazolam 1, clonazepam 1)
 - Tricyclic antidepressants: 1 (desipramine)
- Meta-analysis
 - Response rate: Medication 59%; Placebo 31%
 - 7.3% of subjects treated with SSRIs withdrew bec/o side effects
 - “The overwhelming majority of evidence of efficacy was for the SSRIs, with the most evidence in paediatric OCD”

Anxiety



RD. 7 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD

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MRN: 07-0427

Anxiety after Rx with CBT & Escitalopram



RD. 9 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD

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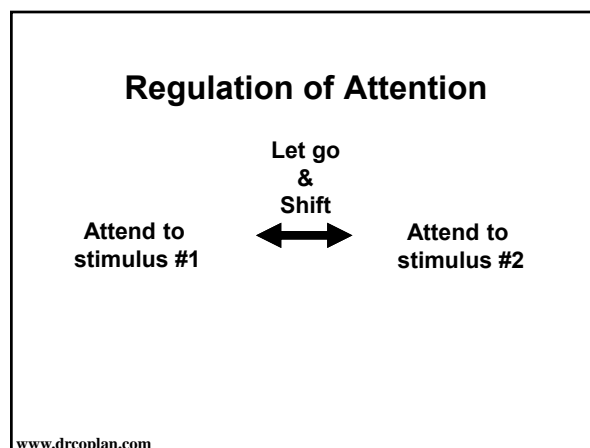
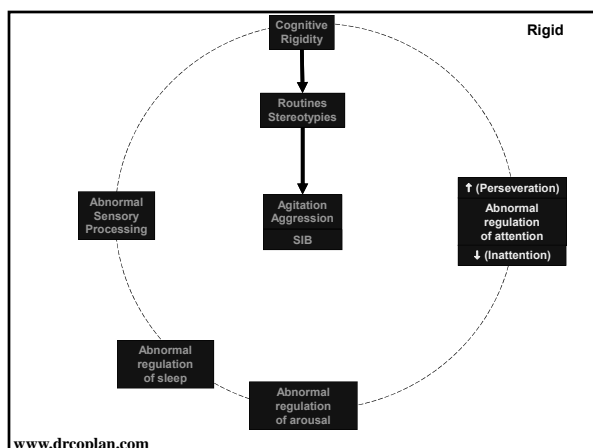
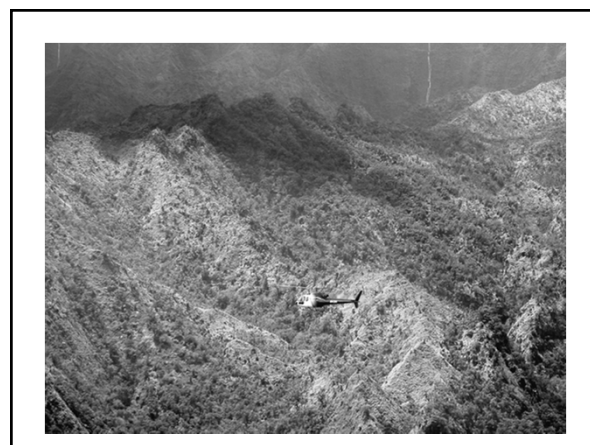
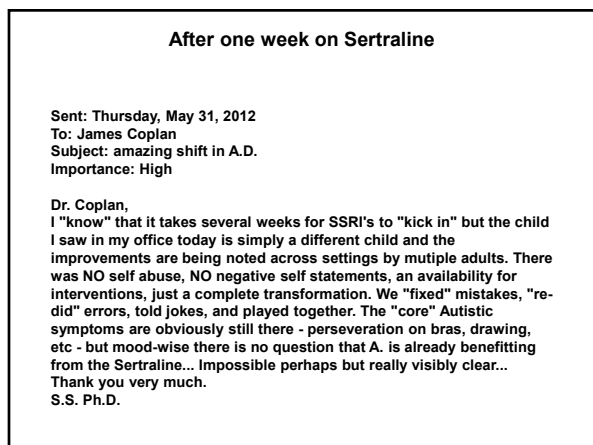
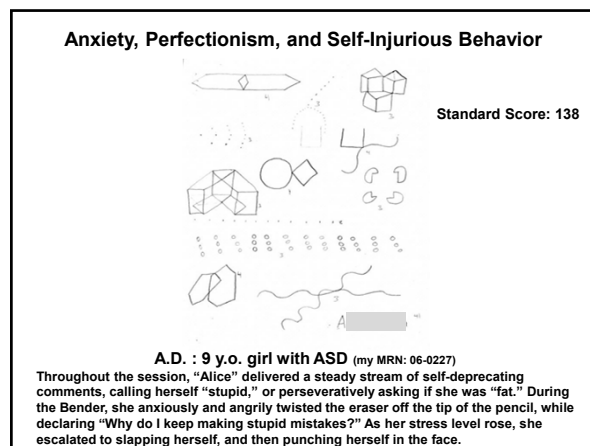
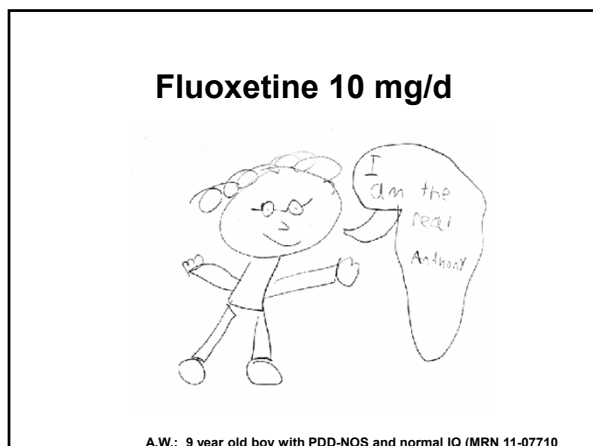
MRN: 07-0427

Anxiety



“The house is on fire and we are running for our life.”

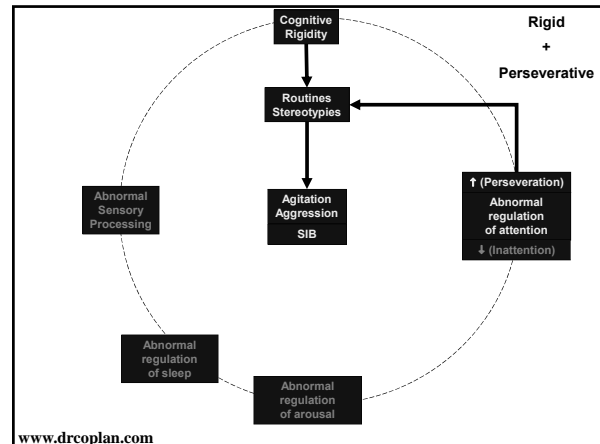
A.W.: 9 year old boy with PDD-NOS and normal IQ (MRN 11-07710)



Abnormal Regulation of Attention - 1

- **Perseveration**
 - Inability to “Let go and shift”
 - Gets “stuck”
 - “*Overattention Deficit Disorder*”
- Compounds the effects of cognitive rigidity

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Perseveration

“Draw a picture of your family, with everybody doing something”



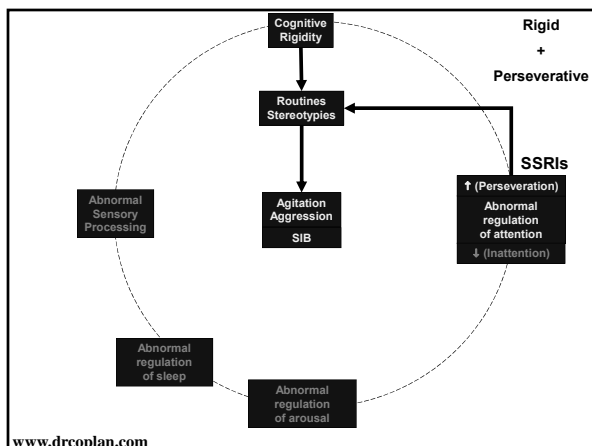
“We are going into the Grand Hyatt”

Wm W; 10 y.o. male; ASD & Anxiety; MRN 12-0827

Abnormal Regulation of Attention (Perseveration)

- **Interventions**
 - Verbal preparation for transitions
 - Visual Schedules
 - SSRIs (OCD: Proven; ASD: likely)

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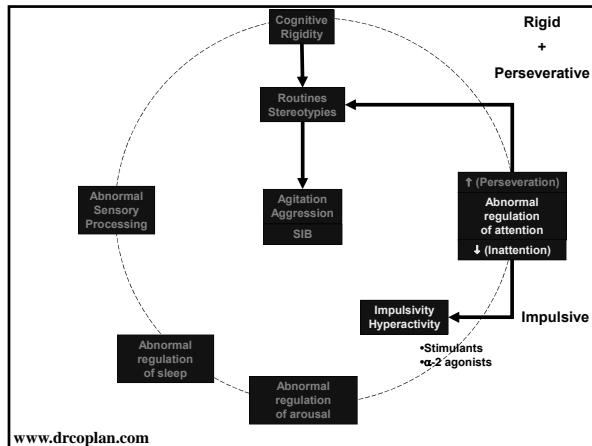


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Abnormal Regulation of Attention - 2

- **Inattention**
 - Inability to focus
 - Impulsive
 - Distractible

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Inattention

- **Interventions**
 - Limited stimuli
 - Short work periods
 - Medication
 - Stimulants (may ↑ anxiety / rigidity / agitation)
 - alpha-2 agonists

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Stimulants, NRI's

Generic Name(s)	Brand Name(s)	Comment
Amphetamine		FDA Schedule II
Dextroamphetamine	Dexedrine, Dextrostat	FDA Schedule II
Dextroamphetamine + amphetamine	Adderall	FDA Schedule II
Methylphenidate	Concerta, Ritalin, Metadate	FDA Schedule II
Dexmethylphenidate	Focalin	FDA Schedule II
Atomoxetine, Attentin	Strattera	Norepinephrine reuptake Inhibitor (NRI), not FDA Schedule II

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Alpha-2 Agonists

Generic Name	Brand Name(s)	Comment
Clonidine	Catapres	More sedating than guanfacine
Guanfacine	Tenex, Intuniv	

- Frontal cortex / Locus Ceruleus: post-synaptic alpha-2 receptors
- Sympathetic outflow (autonomic nervous system): Pre-synaptic autoreceptors → ↑BP

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Alpha-2 Agonists

Benefits	Side Effects
<ul style="list-style-type: none"> • ↓ Agitation • ↓ Hyperactivity • ↑ Attention Span • No exacerbation of anxiety / rigidity 	<ul style="list-style-type: none"> • Sleepiness: Common • Emotional Lability (crying) - occasional • Hypotension (low BP) - rare

Alpha-2 Agonists

"It's buying him the split second before he reacts."

Parents of a child with ASD, agitation, anxiety, and cognitive rigidity after starting guanfacine.

(ML; MRN 13-0839)

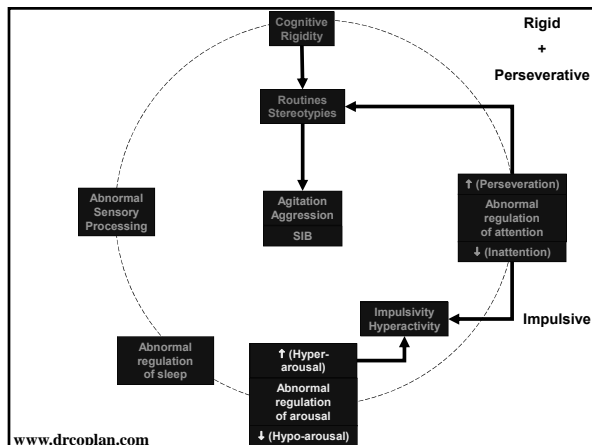
Clinical Pearl

- **Beware of Cognitive Rigidity masquerading as ADHD**
 - Perseveration on inner stimuli: “Inattentive”
 - Perfectionism:
 - “Problems w. task completion”
 - (Or: Task avoidance!)
 - Anxiety:
 - “Rushes through work”
 - “Out of seat behavior”

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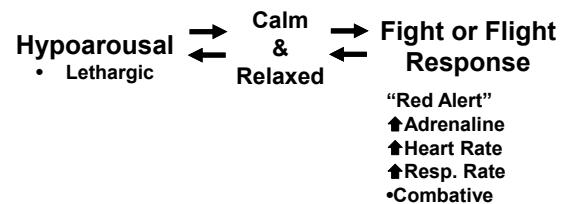


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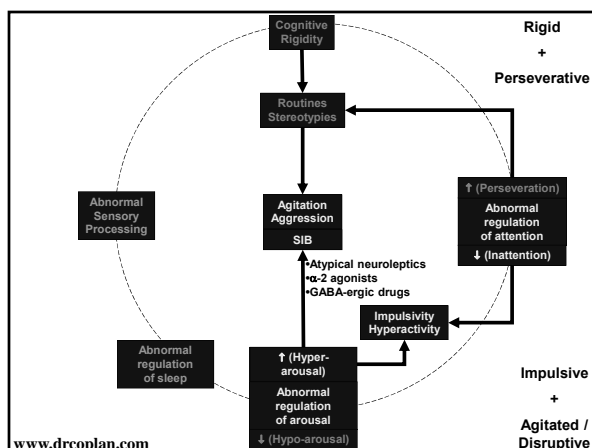


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Regulation of Arousal



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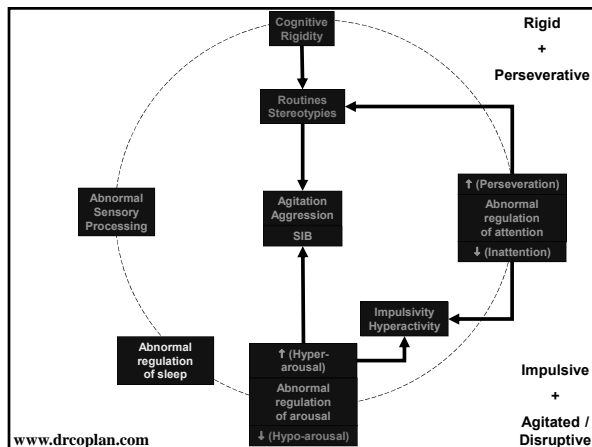
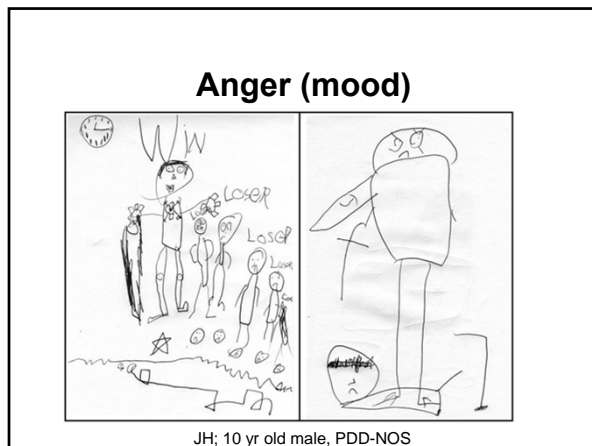


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Atypical Neuroleptics

Generic Name	Brand Name	Comment
Aripiprazole	Abilify	<ul style="list-style-type: none"> • Relatively less risk of weight gain • FDA approved for Rx of ASD
Clozapine	Clozaril	<ul style="list-style-type: none"> • Bone marrow suppression
Olanzapine	Zyprexa	<ul style="list-style-type: none"> • Greater risk of weight gain
Quetiapine	Seroquel	<ul style="list-style-type: none"> • Greater sedation
Risperidone	Risperdal	<ul style="list-style-type: none"> • Greater risk of weight gain • FDA approved for Rx of ASD
Ziprazidone	Geodon	<ul style="list-style-type: none"> • Relatively less risk of weight gain

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Regulation of Sleep - 1

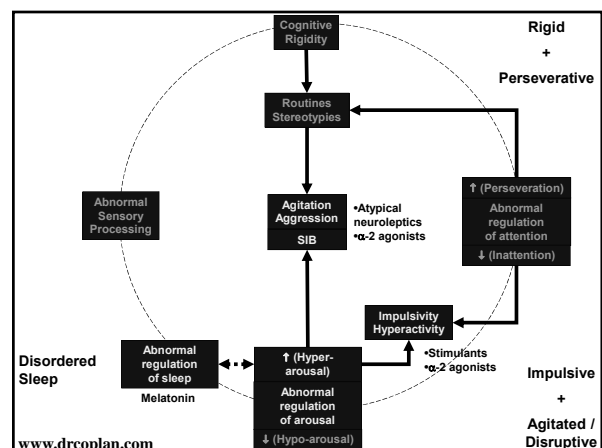
- **Melatonin**
 - Brain hormone
 - ↓ Metabolic rate (Heart, Temp)
 - “You’re sleepy now”
- **Suppressed by light**
 - 24 hr cycle
 - Seasonal cycle

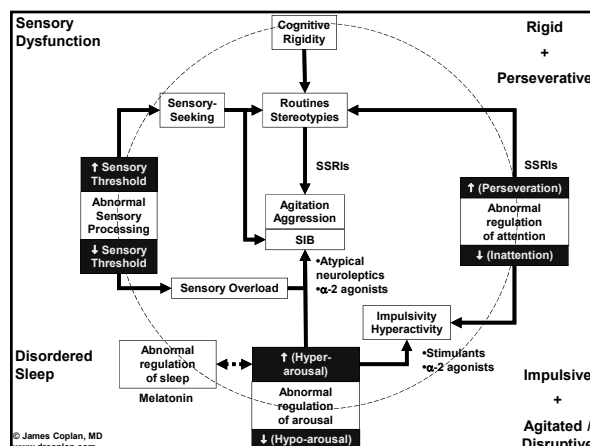
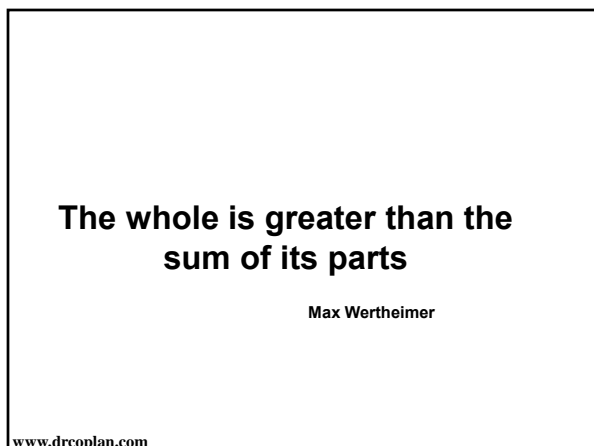
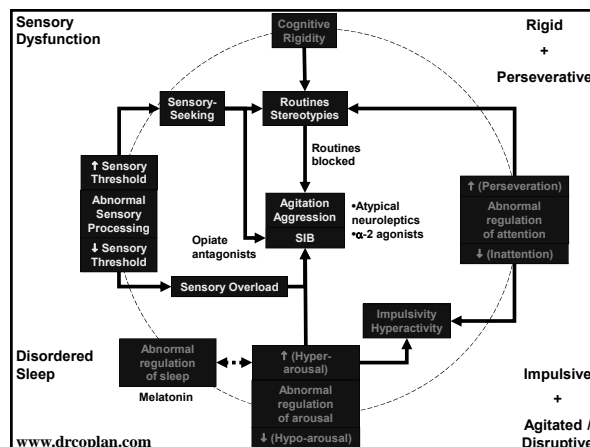
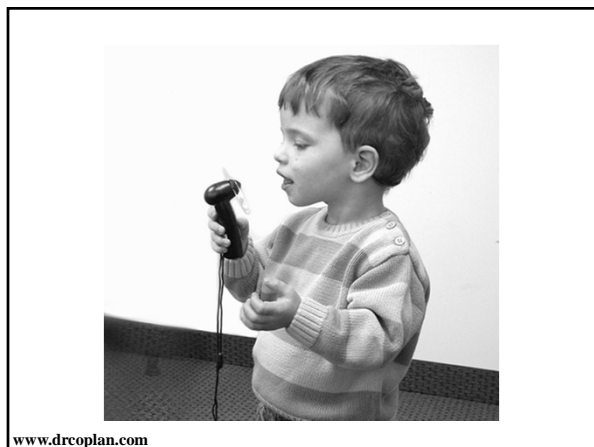
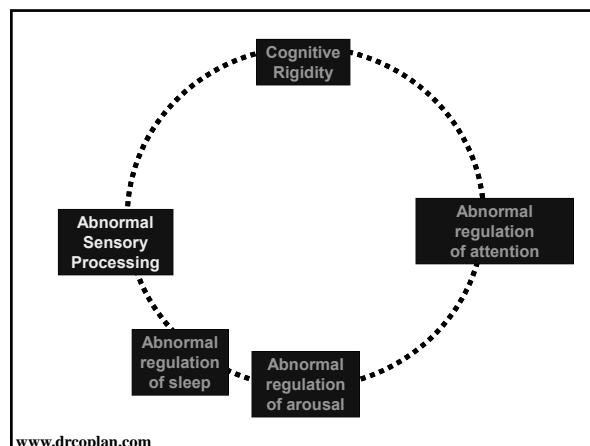
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Regulation of Sleep - 2

- **Abnormal melatonin cycling**
 - Primary disorders of sleep
 - Blindness
 - ASD
- **Symptoms**
 - Delayed onset of sleep
 - Shortened duration / frequent waking

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Summary

- **Why this child?**
 - What is this child's developmental Level?
 - Is this stage-appropriate behavior?
 - Does the behavior serve a social function?
 - Escape, access, attention
 - Is the classroom placement appropriate?
 - Language level?
 - Does this behavior occur in other settings?
 - Family factors?
 - Parents consistent at home?
 - Parental psychopathology? (Anxiety, Depression, Alcohol)

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Summary

- **Why this child?**
 - Neuropsychological factors?
 - Cognitive Rigidity
 - Dysregulation of attention
 - Dysregulation of arousal
 - Sensory Seeking / Sensory Overload
- **Behavioral Intervention – Usually**
 - FBA's usually disregard internalizing behavior
- **Change in classroom setting – sometimes**
 - Shift from rote to inferential learning (2nd - 3rd grade): challenge
- **Medication: Often**
- **Family mental health intervention: Often**

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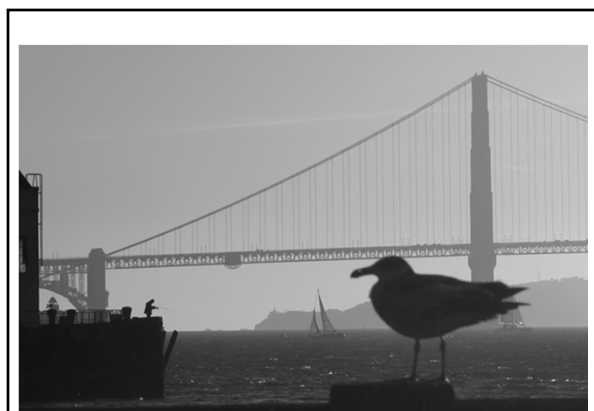
An ounce of prevention....

- **Identify *internalizing* behaviors before they lead to *externalizing* behaviors**
 - Behavior Management Plan that proactively seeks to avert or dissipate anxiety

More on IDEA and FBAs here:

<http://www.wrightslaw.com/info/discipl.index.htm>

<http://www.pent.ca.gov/lgl/addressingbehaviorIDEA.pdf>



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