



#### **Disclosures / References**

 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



Chapter 12: Behavior management and psychopharmacology

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

#### **Outline / Basic Premises - 1**

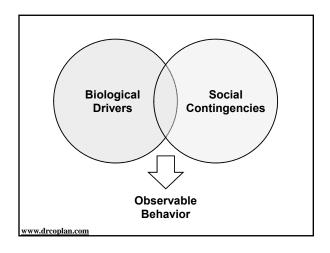
- Biologically driven behaviors / traits
  - Cognitive Rigidity
  - Dysregulation of Attention
  - Dysregulation of Arousal
  - Dysregulation of Sleep
  - Dysregulation of Sensory Processing
- Occur irrespective of environmental contingencies
- · Do not serve a social function
- Specific behaviors / traits are tied to specific neurotransmitters / brain systems

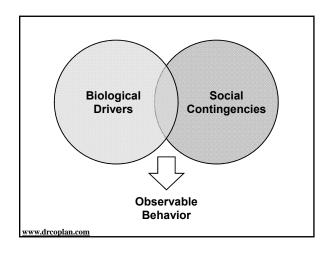
#### **Outline / Basic Premises - 2**

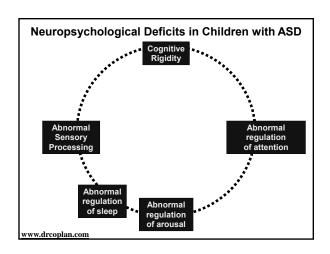
- Socially driven behaviors
  - Occur in response to environmental contingencies
  - Serve a social function
    - Attention
    - · Access to desired objects or activities
    - Escape from undesired activities
  - A-B-C Model
    - . What is the Antecedent to the behavior?
    - · What is the Behavior itself?
    - What are the Consequences for the behavior?

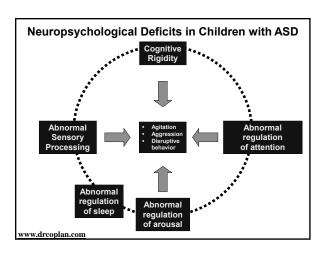
#### **Outline / Basic Premises - 3**

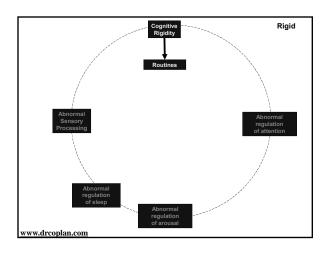
- Behavior management needs to take biological and environmental factors into account:
  - Underlying biological traits often provide the child with lots of opportunities to make unfortunate discoveries (viz: Tantrums or SIB are great ways to get attention or escape from tasks)
- Intervention often requires both pharmacologic and behavioral measures

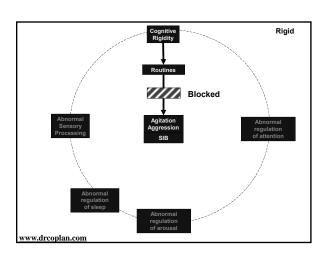


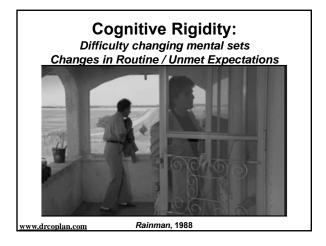


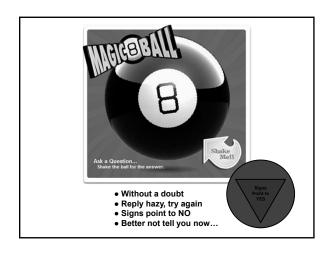


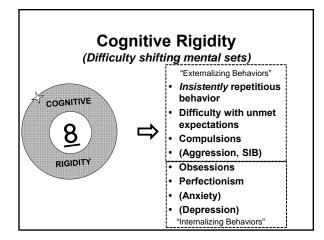


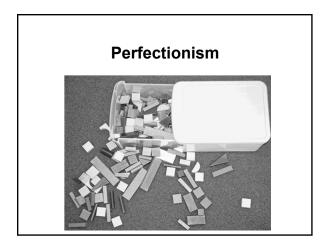


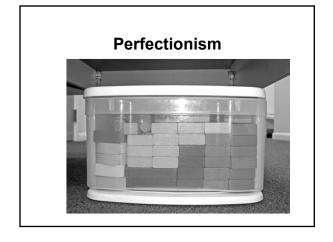


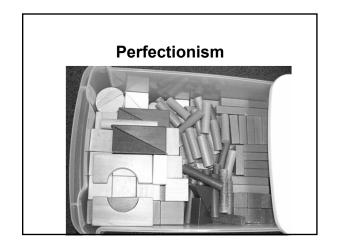


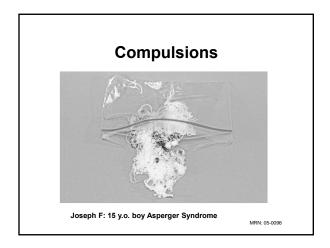


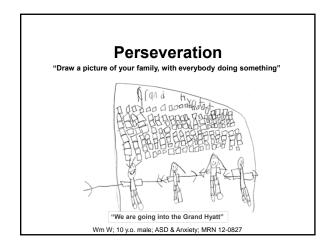


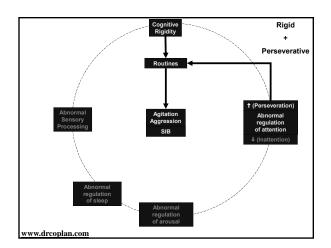






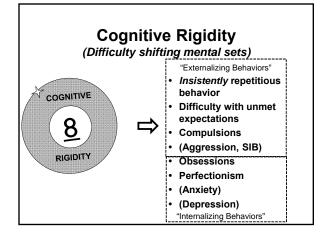


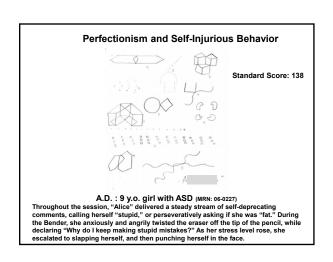


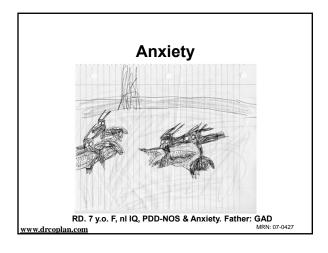


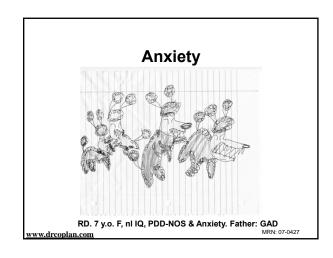
#### **Abnormal Regulation of Attention - 1**

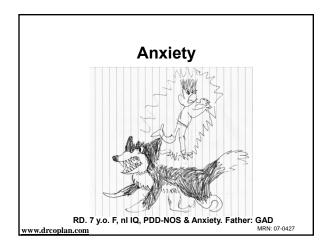
- Perseveration
  - Inability to "Let go and shift"
  - Gets "stuck"
  - "Overattention Deficit Disorder"
- Compounds the effects of cognitive rigidity
  - Lacks the "insistent" nature of Cognitive Rigidity.
     Just keeps going & going & going.....

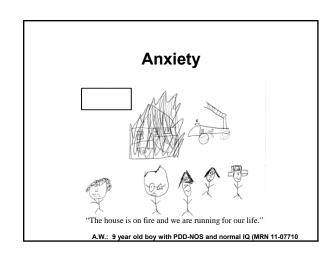


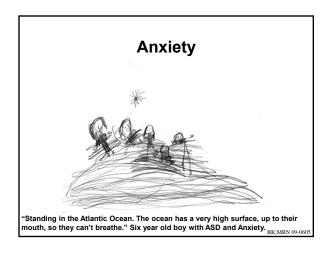


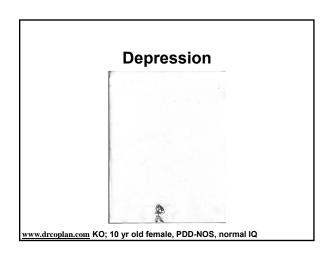


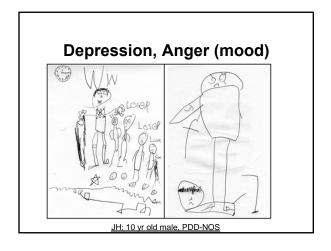


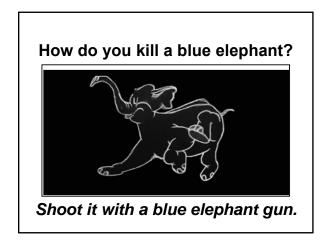


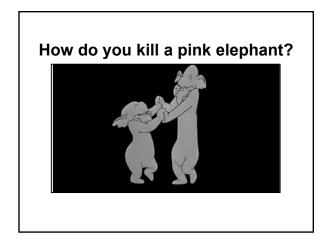


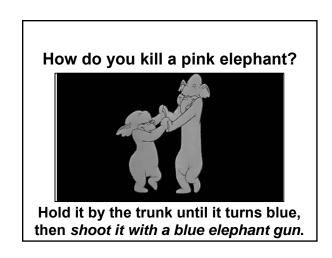


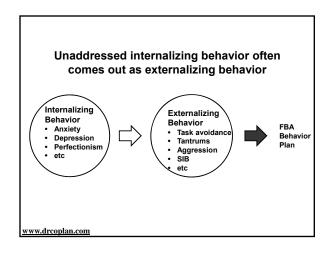


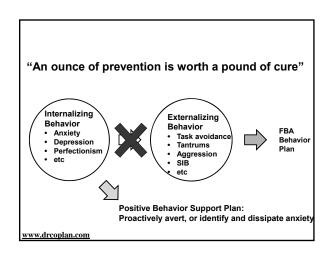












#### The Story of Billy's Box - 1

(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

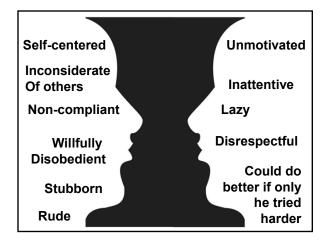
(or, why it's important to ID internalizing behavior)

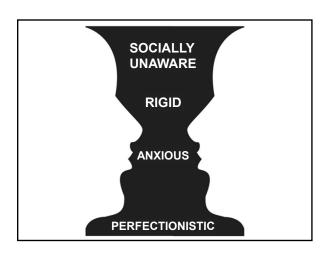


"Put your papers in the box, and we promise you will be able to go back later and work on them some more, if you want to."

#### **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



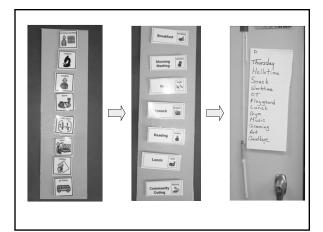


"We caution against the use of the word "stubborn" to characterize Ryan's classroom behavior. Ryan's task avoidance and non-adherence to teacher instruction reflect *cognitive rigidity and anxiety*, *rather than "stubborn" behavior*. Re-framing his actions will lead to more appropriate intervention, placing the focus on *anxiety management and cognitive flexibility*, rather than "compliance."

## Positive Behavior Support Plan for Internalizing Behavior

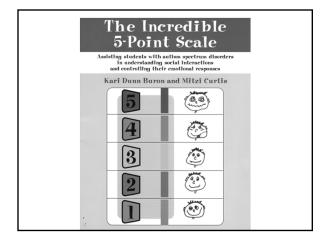
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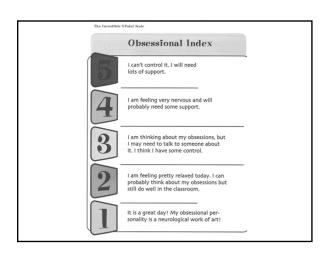
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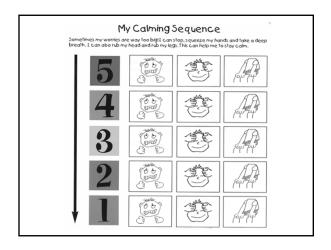


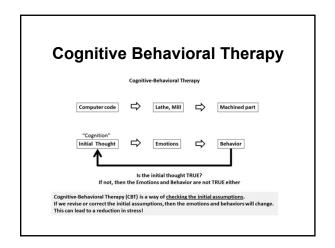
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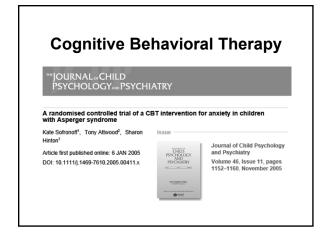






#### **Cognitive Behavioral Therapy**

What is the worst possible outcome you can imagine?	What is the next-to-worst outcome?	What is the neutral (not good or bad) outcome?	What is the next best outcome?	What is the very best outcome you can imagine?
What is the chance of this happening?	What is the chance of this happening?	What is the chance of this happening?	What is the chance of this happening?	What is the chance of this happening?



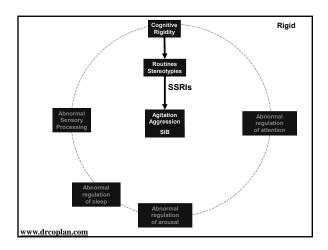
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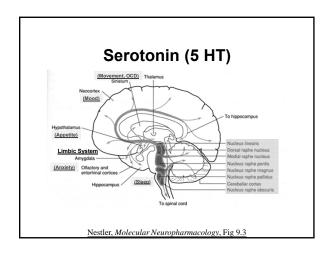
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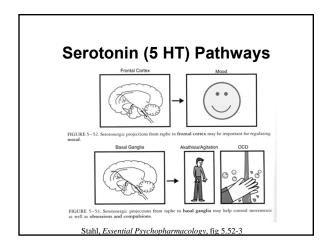
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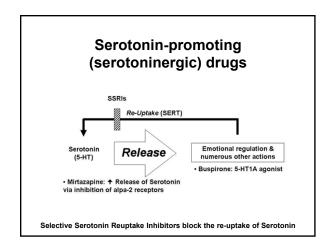
### Selective Serotonin Reuptake Inhibitors (SSRIs)

- Primary targets
  - Cognitive Rigidity
    - Anxiety
    - Obsessions (thoughts)
    - Compulsions (behavior)
    - Perfectionism
  - Depression
  - Stereotypies: Probably not
- "Downstream" benefit:
- Quality of Life









#### **SSRIs in ASDs**

- Side Effects
  - Activation
    - Hyperactivity
    - Irritability
    - Insomnia
    - Agitation
  - Uncommon or irrelevant
    - GI dysfunciton
    - 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		

#### Selective serotonin reuptake inhibitors (SSRIs) for autism spectrum disorder (ASD). Williams, K., et al., Cochrane Database Syst Rev, 2010. 8: p. CD004677

- Studies reviewed: 7 randomized controlled trials / 271 participants
  - Fluoxetine (2), fluvoxamine (2), fenfluramine (2), citalopram (1)
     Subjects: Children (5); Adults (2)

  - Varying inclusion criteria for Dx of ASD and IQ
  - o 17 different outcome measures
- · "Data were unsuitable for meta-analysis"

#### Pharmacotherapy for anxiety disorders in children and adolescents

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

- Studies reviewed: 22 RCTs/ 2,519 participants

  - Studies reviewed: 22 RC is/ 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)

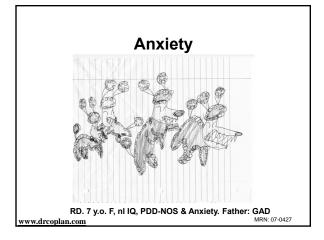
    SNRIs: 5, (clomipramine 3), venlafaxine 2)

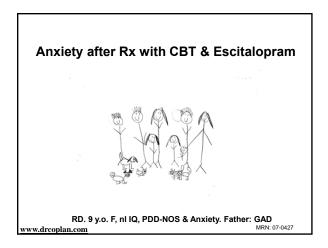
    Benzodiazepines: 2: (alprazolam 1, clonazepam 1)

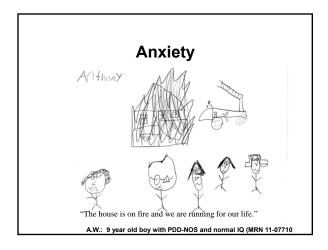
    Tricyclic antidepressants: 1 (desipramine)

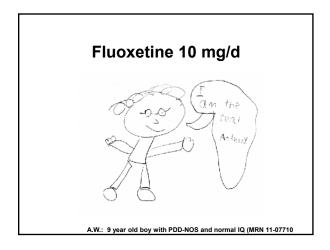
#### Meta-analysis

- o 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"









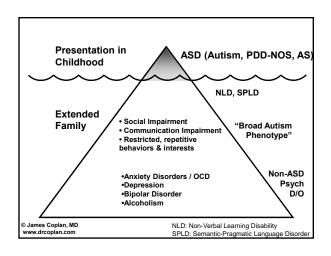
#### After one week on Sertraline

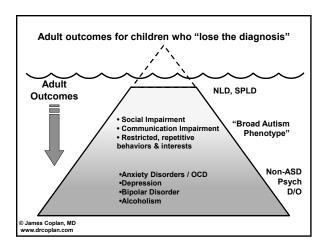
Sent: Thursday, May 31, 2012 To: James Coplan Subject: amazing shift in A.D. Importance: High

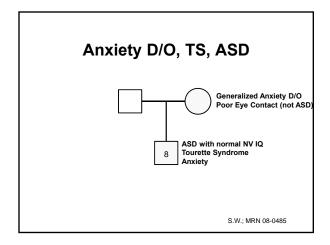
#### Dr. Coplan,

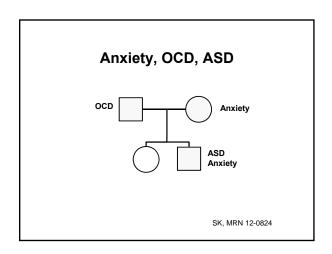
D'''. Twow that it takes several weeks for SSRI's to "kick in" but the child I saw in my office today is simply a different child and the improvements are being noted across settings by mutiple adults. There was NO self abuse, NO negative self statements, an availability for interventions, just a complete transformation. We "fixed" mistakes, "redid" errors, told jokes, and played together. The "core" Autistic symptoms are obviously still there - perseveration on bras, drawing, etc - but mood-wise there is no question that A. is already benefitting from the Sertraline... Impossible perhaps but really visibly clear... Thank you very much. S.S. Ph.D.

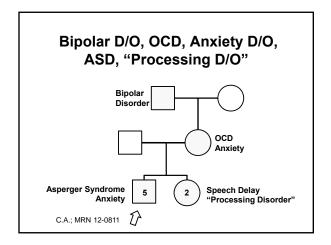
#### **Prognosis & Family Genetics**

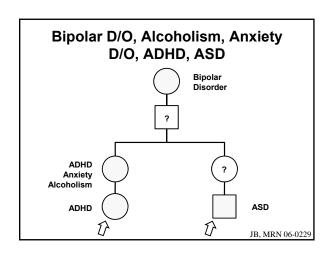


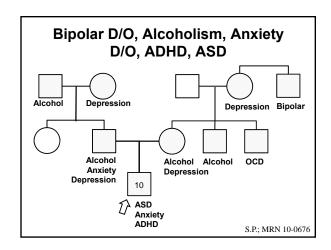


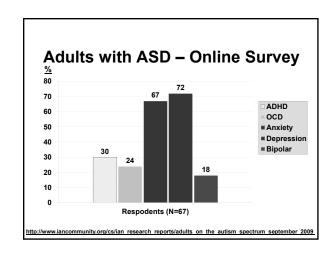


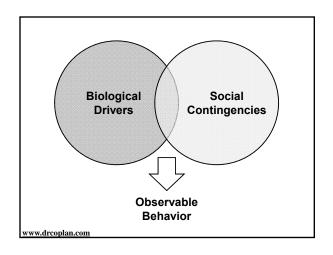












#### The ABC's of Behavior Analysis

- What is the Antecedent?
- What is the Behavior?
- What is the Consequence?

#### **Antecedents**

- External:
  - Imposition of a task
  - Change in routine
  - Denial of access to object or activity
  - Other....
  - Or: No apparent external antecedent

#### **Antecedents**

- Internal:
  - Hunger
  - Thirst
  - Fatigue
  - Cognitive Rigidity
  - Dysregulation of Attention
  - Dysregulation of Mood / Arousal
  - Dysregulation of Sensory Processing
  - Other biological drivers

#### **Behavior**

- · What, exactly, is the behavior?
  - "Topography"
    - Verbal
    - Physical
- Frequency
- Intensity
- Duration
- Timing

#### Consequences

- Reinforcers
  - Positive
  - Negative
- Aversives

#### **Food Selectivity**

Negative and Positive Reinforcement of unwanted behavior

- Parent removes non-preferred food ([-] reinforcement)
- Parent provides child with his/her preferred food ([+] reinforcement)
- Alternatives
  - First .....Then (The Premack Principle)
  - Put refusal on extinction
  - The kitchen is closed between meals

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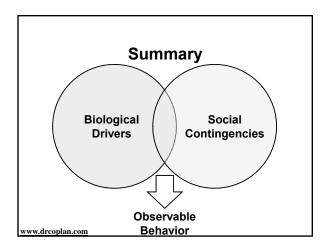
# Token Economy: The next step beyond Time Out

- · Concretely specified behaviors
- Earn and Lose Points
- Points
   → Access to preferred items
  - Preferred toys, Computer time, etc.
  - NO access to preferred item at other times
  - "Extra" treats not as effective
- Works with children who understand rule-based play (CandyLand, Uno, etc.)



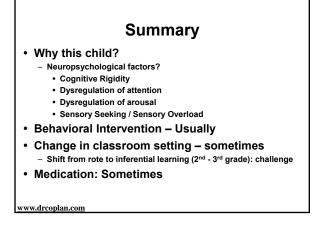
#### But.....

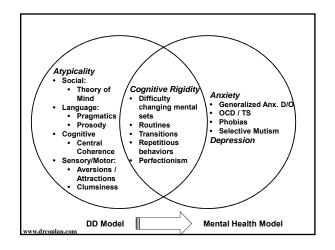
- FBA is generally "blind" to internalizing behavior
- Reinforcers and Aversives don't reduce internalizing behavior

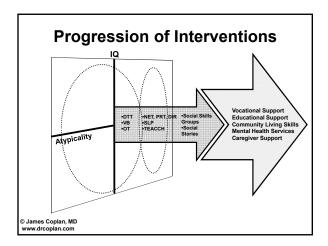


#### An ounce of prevention....

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







#### **Summary**

Services for adult "survivors" of childhood ASD

- Mental Health
  - Anxiety
  - Depression
  - Mood Disorders
  - Depression
- Vocational
- Workplace Social Skills
- Parent / Caregiver support
- Spouse / Partner support

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Chapter 12: Behavior management and psychopharmacology

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

