Monarch Center for Autism
A Division of Bellefaire JCB

Autism and Mood Disorders: Assessment & Intervention

Dr. Sonal Moratschek
February 8, 2018

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Brief Introduction

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Monarch Center for Autism

- Preschool & Day School (ages 3-21)
- Transition Education Program (ages 14-21)
- Monarch Boarding Academy / residential treatment facility (ages 8-21)
- Adult Day & Residential Services (ages 18+)

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Disclosures

- I have no financial disclosures.

Overview

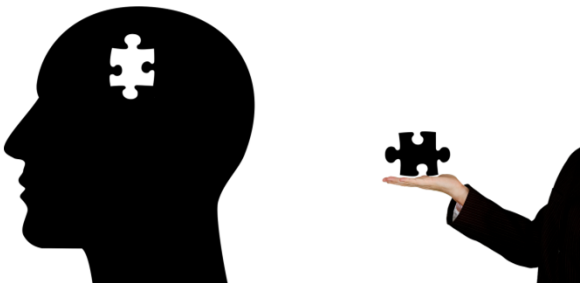
- Co-morbid mood disorders can occur in children and young adults with Autism Spectrum Disorders (ASD). Identification and treatment of these symptoms can be challenging.

Objectives

- Define diagnosis of mood disorders as described by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)
- Identify symptoms in people with Autism Spectrum Disorder (ASD)
- Discuss differential diagnosis of mood disorders (i.e., how to distinguish a particular disorder or condition from others that present similar clinical features)
- Identify ways to treat individuals with a dual diagnosis of ASD and mood disorders
- Examine a case study highlighting a student with a dual diagnosis of ASD and a possible mood disorder
- Question & Answer

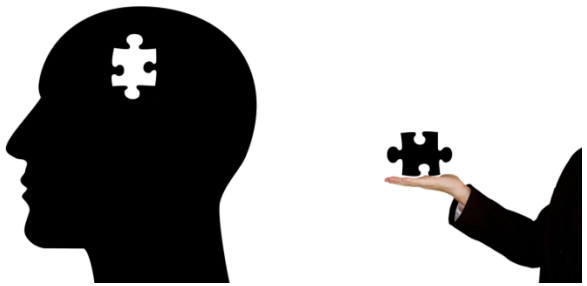
Our Student (Case Study)

- "RG" is a 16 year old male of Chinese decent, with a diagnosis of Autism Spectrum Disorder, Level 3 with Intellectual Disabilities (ID) and Learning Disabilities (LD).
- He was admitted to Monarch Center for Autism (residential treatment facility) for aggressive behaviors in the home, and a desire for increase in speech and communication that was not available in his home district.
- He had lived with his family prior to admission to Monarch Center for Autism.
- Parents did not have access to ongoing providers who worked frequently with children on the autism spectrum.
- A language barrier between the family and providers complicated his previous care.



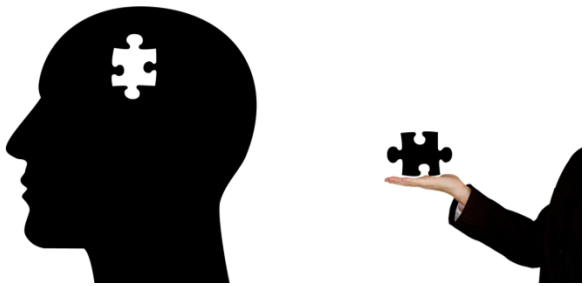
Our Student (Deficits)

- Transitioned from home to Monarch Center for Autism (but residential and school) without aggression.
- Apparent Deficits included:
  - Speech
  - Social Interactions
  - Motivation to complete activities at Monarch Center for Autism



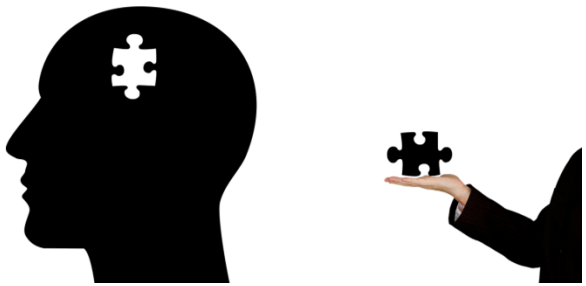
Our Student (Changes in Behavior)

- Increased aggression
- Increased vocalization
- Increased refusal to complete tasks
- Withdrawal into his room
- Refusal to talk with parents
- Change in sleep
- Worse in some environments versus others



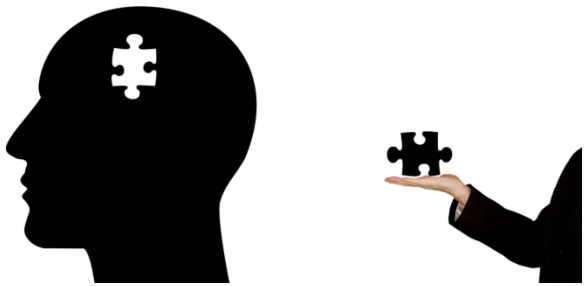
Our Student (Changes in Behavior)

- The school team and residential team independently became concerned about these changes in behaviors. There was consensus that RJ was deteriorating. However, the etiology of these changes was not clear.



Our Student (Etiologies)

- Was RG angry with staff?
- Was RG upset that he was in a residential living environment?
- Was the honeymoon period over?
- Was there another function for the behavior?
  - e.g., escape-avoidance
- Was this a result of communication?
- Or was RG depressed/manic/psychotic?

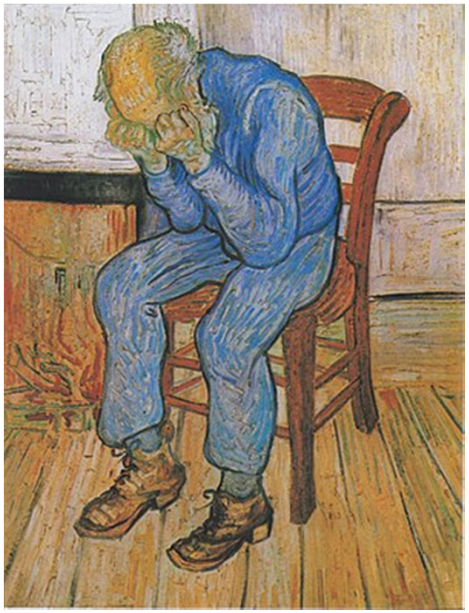


What are Mood Disorders?

- According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5):
  - DMDD (Disruptive Mood Dysregulation Disorder)
  - MDD (Major Depressive Disorder)
  - Premenstrual Dysphoric Disorder
  - Substance/Medication Induced
  - Unspecified/Other specified Depressive Disorder
  - Bipolar Disorder (Type 1 and Type 2)
  - Cyclothymic Disorder
  - Due to Another Medical Condition
  - Unspecified/Other specified

DSM 5: Major Depressive Disorder

- Depressed mood
- Decreased interest
- Changes in weight or appetite
- Changes in sleep
- Psychomotor changes (observable by others)
- Fatigue/decreased energy
- Feelings of worthlessness or guilt
- Decreased ability to concentrate
- Recurrent thoughts of death or suicidal ideation



American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013.

Major Depressive Disorder

- Prevalence
  - Adults: ~7%
    - Females (1.5-3) : Males (1)
  - Adolescents: ~ 5.7%
    - Females (7.4%) to Males (4%)

Data from: American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013.
CDC/NCHS, National Health and Nutrition Examination Survey, 2009–2012. 12-17

DSM 5: Bipolar 1 Disorder

Manic Episode

- 3 of following present (4 if mood is only irritable)
  - Inflated self-esteem or grandiosity
  - Decreased need for sleep
  - Increased talkativeness/pressure to talk
  - Flight of ideas/racing thoughts
  - Distractibility
  - Increased goal directed activity/psychomotor agitation
  - Engagement in high risk activities

American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013.

Bipolar Disorder "NOS"

- Prevalence
  - Adults:
    - ~2.8% of U.S. adults in the past year
    - Males (2.9%) and Females (2.8%)
  - Adolescents
    - ~ 2.9% of adolescents
    - Females (3.3%) and Males (2.6%)

Harvard Medical School, 2005. National Comorbidity Survey (NSC). (2017, August 21). Retrieved from https://www.hcp.med.harvard.edu/ncs/index.php
National Institutes of Mental Health. Bipolar Disorder. Last updated November 2017. Found online at https://www.nimh.nih.gov/health/statistics/bipolar-disorder.shtml.

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Prevalence of Autism Spectrum Disorder

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

Identified Prevalence of Autism Spectrum Disorder
ADDM Network 2000-2010
Combining Data from All Sites

Surveillance Year	Birth Year	Number of ADDM Sites Reporting	Prevalence per 1,000 Children (Range)	This is about 1 in X children...
2000	1992	6	6.7 (4.5 – 9.9)	1 in 150
2002	1994	14	6.6 (3.3 – 10.6)	1 in 150
2004	1996	8	8.0 (4.6 – 9.8)	1 in 125
2006	1998	11	9.0 (4.2 – 12.1)	1 in 110
2008	2000	14	11.3 (4.8 – 21.2)	1 in 88
2010	2002	11	14.7 (14.3 – 15.1)	1 in 68

Harvard Medical School, 2005. National Comorbidity Survey (NSC). (2017, August 21). Retrieved from https://www.hcp.med.harvard.edu/ncs/index.php

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Prevalence of an ASD with Co-Morbid Mental Health Conditions

- Recent studies have suggested that nearly 3 out of 4 individuals with Autism Spectrum Disorder meet criteria for another Axis I disorder
- These disorders include phobia (44%), OCD (37%), ADHD (28%)
- Additional review of registry data found comorbidity rates of ADHD (38.1%), Anxiety (26.2%), MDD (~11%), Bipolar disorder (5.2%)

Leyfer, O.T., Folstein, S.E., Bacalman, S. et al. J Autism Dev Disord (2006) 36: 849. https://doi.org/10.1007/s10803-006-0123-0
Rosenberg, R. E., Kaufmann, W. E., Law, J. K., & Law, P. A. (2011). *Autism Research and Treatment*, 405849. http://doi.org/10.1155/2011/405849

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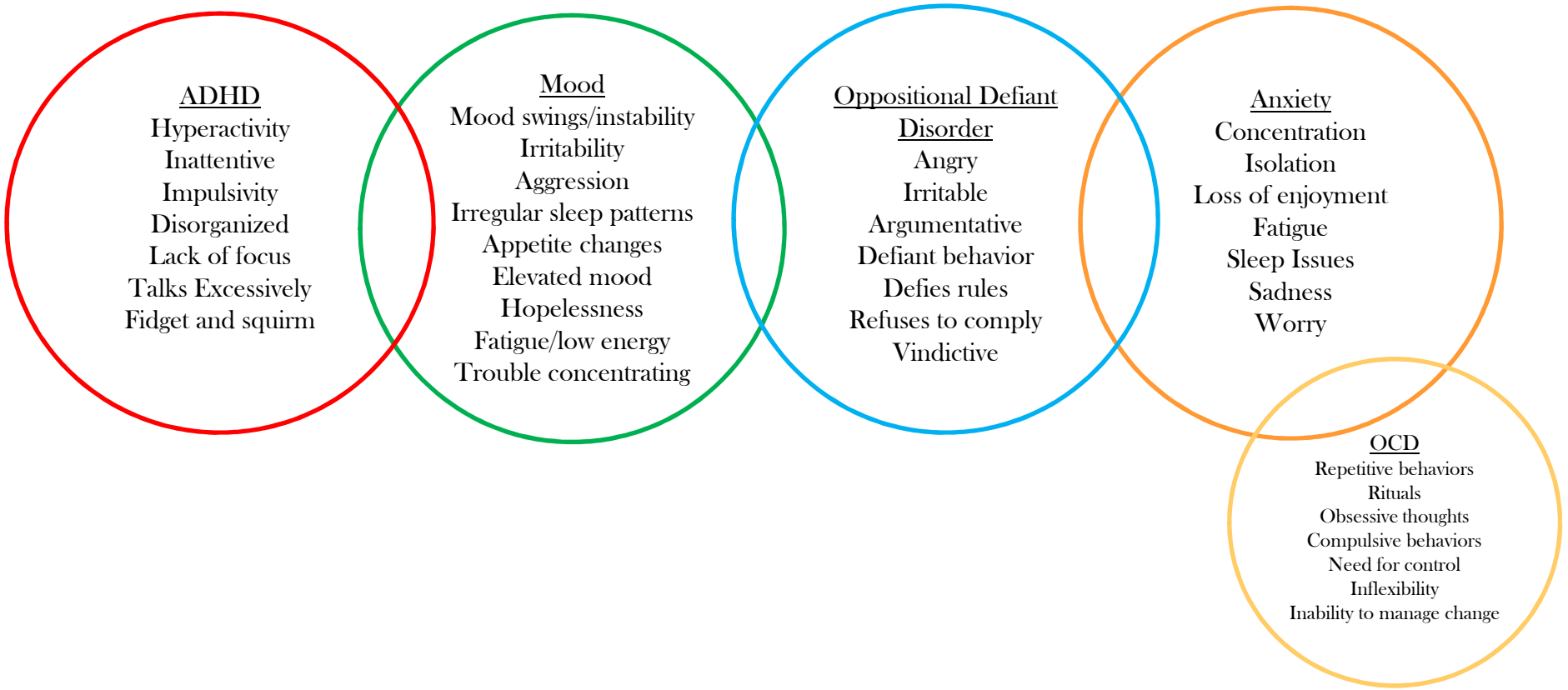
Common Co-Occurring Conditions



https://www.autismspeaks.org/what-autism/treatment/treatment-associated-psychiatric-conditions
https://www.verywell.com/mood-disorders-and-asperger-syndrome-259943

Major Depressive Disorder in Individuals with Autism

- Diagnostic criteria is the same across individuals with Autism
- Prevalence:
  - Research is not clear
  - Studies have cited between 1.4%-38%
  - No gold standard for diagnosis
- Gender differences:
  - Research is not clear
- Genetic:
  - Most depressed children with ASD had a family history of depression

Lainhart JE, Folstein SE.. J Autism Dev Disord. 1994 Oct; 24(5):587-601
Simonoff E, Pickles A, Charman T, Chandler S, Loucas T, Baird G.Am Acad Child Adolesc Psychiatry. 2008 Aug; 47(8):921-9.

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Autism and Mood: Signs & Symptoms

Traditional signs and symptoms of depression including characteristics that may be seen in childhood depression include:

- Depressed mood, sadness, tearfulness
- Irritability*
- Anhedonia
- Insomnia or hypersomnia
- Psychomotor agitation or retardation (behavioral problems*)
- Fatigue or loss of energy
- Social withdrawal
- Weight loss not associated with dieting / change in appetite
- Increased guilt or worthlessness
- Somatic complaints*
- Lack of brightening*
- Diminished ability to concentrate; indecisiveness
- Recurrent thoughts of death or suicidal ideation
- Play characterized by themes of suicide or death*

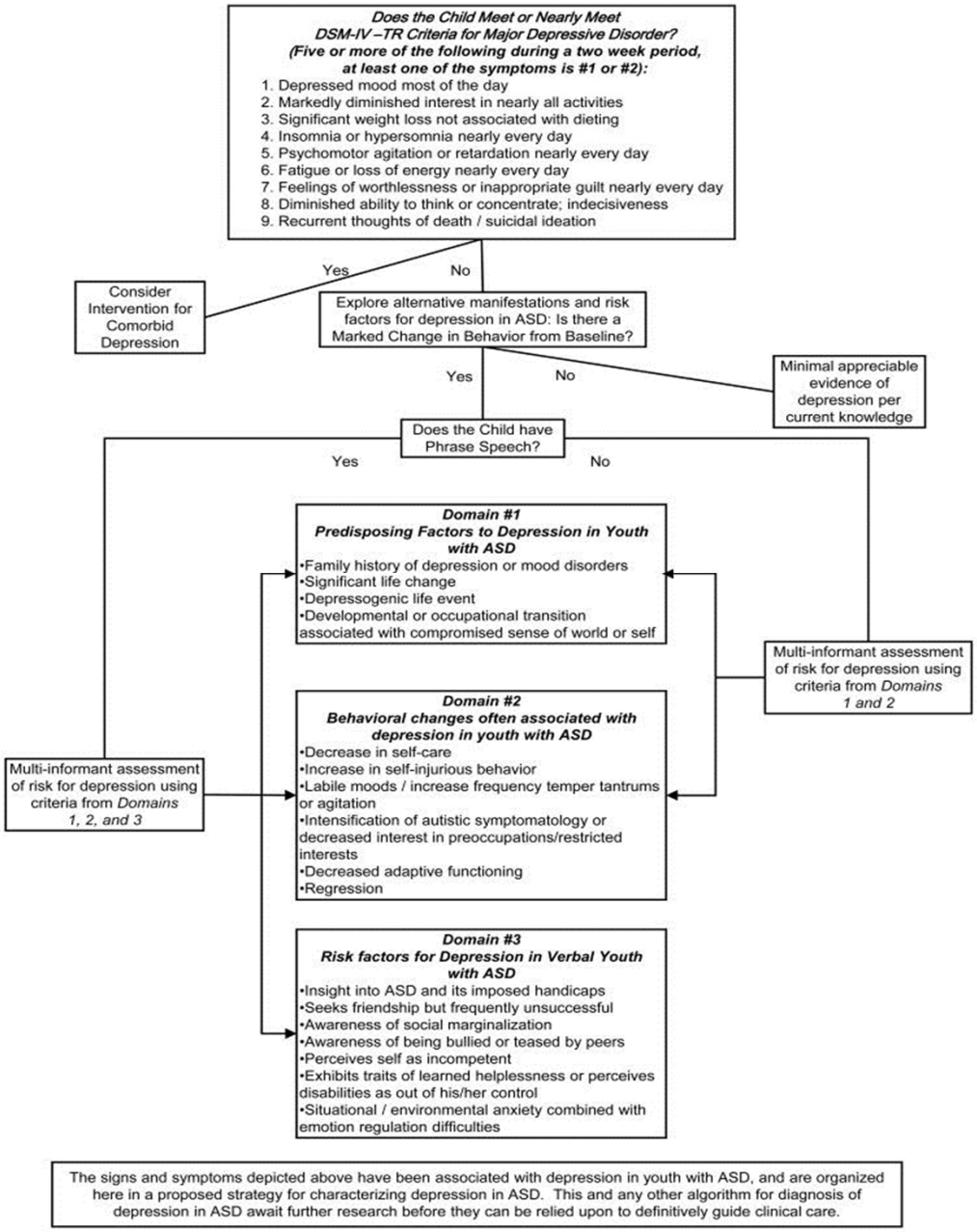
Additional signs and symptoms that may be present in ASD-affected children who are experiencing depression

- Aggression
- Mood lability
- Hyperactivity
- Decreased adaptive functioning or self-care
- Regression of previously learned skills
- Increased compulsiveness
- Fluctuations in autistic symptoms including both increased stereotypic behavior and decreased interest in preoccupations/restricted interests
- Self-injurious behavior
- Catatonia
- Overall marked change in behavior from baseline not otherwise specified by above characteristics

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3154372/

Diagnostic Complexities

- Communication
  - Limited or non-verbal status
  - Echolalia
- Co-morbid Intellectual Disability
  - Processing or other Learning Disability
- Limited baseline social/emotional reactivity
- Family Distress

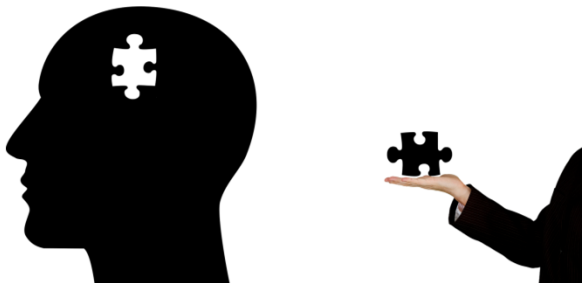


https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3154372/

Our Student (Symptoms)

- Let's revisit our student, RG.

ASD Symptoms	Possible MDD Symptoms
• Minimal Social Reactivity	• New Onset Withdrawal
• Limited Verbal Communication • Restricted Interests • Restricted Food Interests	• Decrease in communication with family • Increase (?) in aggression • Decreased Interest in previously enjoyable activities



Bipolar Disorder in Individuals with Autism

- Prevalence:
  - Studies have shown prevalence range from 1.4%-30%
  - 60% of children were described as irritable; ~30% had elevated moods

Borue X et al. J Am Acad Child Adolesc Psychiatry. 2016 Dec;55(12):1064-1072.e6.
Vannucchi G, Masi G, Toni C, Dell'Osso L, Erfurth A, Perugi G. J Affect Disord. 2014 Oct;168:151-60
Wtiner A.N & Lecavalier, L. J Dev Phys Disability (2010) 22:367: https://doi.org/10.0007/s10882-010-9194-0.

Comorbidity of Bipolar Disorder Type 1 & Autism

- Prevalence:
  - In one study looking at comorbidity, 37% of youth who met criteria for BPD type 1, met criteria for ASD
  - Another study looking at longitudinal course of bipolar disorder in ASD, 7% of comorbid BPD in ASD
- Familial:
  - Relatives of patients with ASD, have a doubled risk of Bipolar disorder (10%) versus those without

Borue X et al. Longitudinal Course of Bipolar Disorder in Youth With High-Functioning Autism Spectrum Disorder. J Am Acad Child Adolesc Psychiatry. 2016 Dec;55(12):1064-1072.e6. doi: 10.1016/j.jaac.2016.08.011. Epub 2016 Oct 4;
Vannucchi G, Masi G, Toni C, Dell'Osso L, Erfurth A, Perugi G. : A Systemic Review. J Affect Disord. 2014 Oct;168:151-60. doi: 10.1016/j.jad.2014.06.042.
Joshi, G et al. The Journal of Clinical Psychiatry, 01 Jun 2013; 74(6): 578-586.

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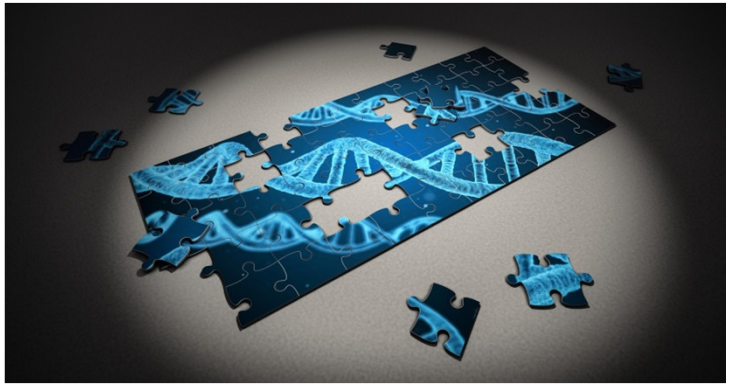
Symptoms of Bipolar Disorder & Autism

- Increased aggression and irritability
- Changes in sleep
- Changes in appetite
- Psychosis
- Increased hyperactivity/psychomotor agitation

Diagnostic Complexities

- Communication
  - Limited or non-verbal status
  - Echolalia
- Co-morbid Intellectual Disability
  - Processing or other Learning Disability
- Limited baseline social/emotional reactivity
- Family distress



Diagnostic Complexities

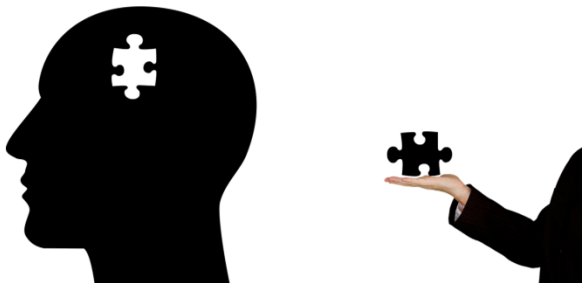
- Children with ASD
  - Can be hyperactive
  - Can be distractible
  - Already can have disturbances in sleep
  - Can appear “psychotic” with scripting

Witwer, AN & Lecavalier, L. J Dev Phys Disabil (2010) 22: 367: https://doi.org/10.1007/s10852-010-9194-0

Our Student

- Let's revisit our student, RG.

ASD Diagnosis	Bipolar Disorder Diagnosis
• Poor sleep	• Decreased need for sleep
• Irritability	• Irritability
• Aggression	• Aggression



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Suicidal Ideation in Children with Autism

- Study has reviewed the risk of suicidal ideation in children with Autism.
- Findings include:
  - Comorbid psychiatric conditions were highly predictive of suicide attempt with >50% of the children having suicidal ideation
  - IQ was not correlative
- Study found that risk factors for suicidal ideation include:
  - Over the age of 10
  - African American/Hispanic
  - Male
  - Lower SES

Susan Dickerson Mayes, Angela A. Gorman, Jolene Hillwig-Garcia, Ehsan Syed. Volume 7, Issue 1, 2013,109-119.

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Differential Diagnosis of Mood Disorders

- Symptoms of Autism
- Medical
  - Is the patient in pain?
  - Is the patient having seizures?
  - Are there other neurologic/ autoimmune/ rheumatologic (other) diseases presenting as changes in mood?
  - Does the child have additional co-morbid psychiatric issues?
  - Substance Use?
- Sensory
  - Sensory seeking
  - Hypersensitivity to sensory changes
- Communication
- Environmental
- Co-morbid psychiatric diagnosis

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How to Treat Individuals with a Dual Diagnosis of ASD & Mood Disorders

- Assessment
  - Multiple informants is Key!
  - If you can, take your time and gain assessments over a period of time
  - Assess for medical complications
  - Assessment for Suicidal Ideation/Acute Risk
- Non-pharmacological Interventions
  - Behavioral Interventions
  - Sensory Interventions
  - Therapy
- Involvement of psychiatric professionals

Frazier et al.. American Journal of Psychiatry, 159 (1), pp 13-21.

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How to assist with mood difficulties…

1. Does your student have an effective way to communicate what s/he needs?
2. Does your student know what different moods look and feel like?

Example

	Looks Like	Feels Like	I Can Try to
5	Kicking or hitting	My head will explode	Call my mom to go home
4	Screaming or hitting	Nervous	Go see Mr. Peterson
3	Quiet, rude talk	Bad mood, grumpy	Stay away from kids
2	Regular kid	Good	Enjoy it
1	Playing	A million bucks	Stay that way

https://www.5pointscale.com/more_sweet_scale.htm

Student's safety ZONE SYSTEM

Green zone	Yellow zone (warning zone) *restarts next shift	Red zone (high risk zone) *restarts 24 hours
Things to do for fun on level green: • Go on YouTube for 30 minutes once your entire schedule is completed for the shift and for 10 tokens (30 minutes per shift). • Play basketball. • Go out in the community. • Use your cell phone when appropriate. • Listen to music in your room.	**Things to do for fun on level yellow:** • Listen to the radio. • Play basketball. • Staff's discretion about safety in the community. • Use your cell phone (when appropriate).	**Things to do for fun on level red:** • Listen to the radio. • Use your phone (when appropriate) • Play basketball. • No community for 24 hours.
When I'm on level green I am: • Being safe with my body, my thoughts, and my words. • Completing my schedule. • Being kind to staff and peers. • Talking to staff when I am feeling upset or concerned about my thoughts.	**When I'm on level yellow I am:** • I'm being unsafe. • I'm talking about *acting* violent. • I'm threatening to hurt someone. (I am NOT in trouble…this is only about safety)	**When I'm on level red I am:** • I am not being safe (restraint). • I have put my hands on someone.
• I am doing everything that is asked of me and I am following all of the rules.	• Staff will keep a close eye on me. • I am not in trouble and I should tell staff how I am feeling. I should write it down. • I may be having a hard time. • I should not be listening to music that upsets me or gets me too excited.	• Staff will need to monitor me. • I should not be listening to music that upsets me or gets me too excited.
* I don't need to do anything different, just communicate my needs to staff.	• I should be talking to staff about what is bothering me and write it down on one of my sheets with the scale. • I should be using feeling words rather than talking about hurting someone.	• I should be using my sheets and following directions of staff for safety. • I may be on restrictions due to unsafe behaviors.

* Neutral * Warning * High Risk

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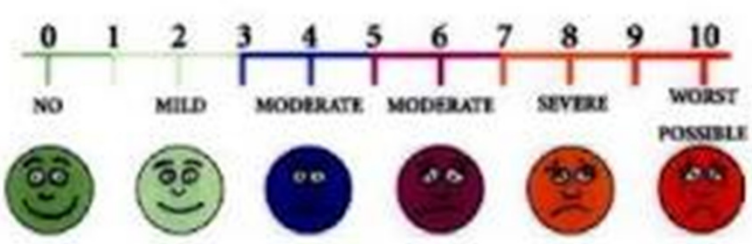
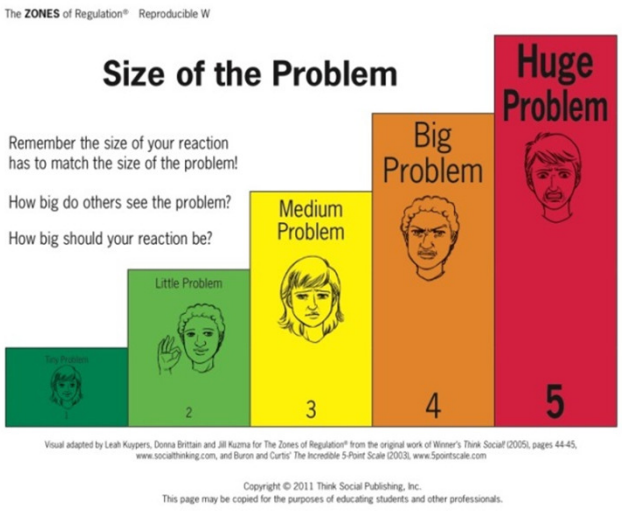
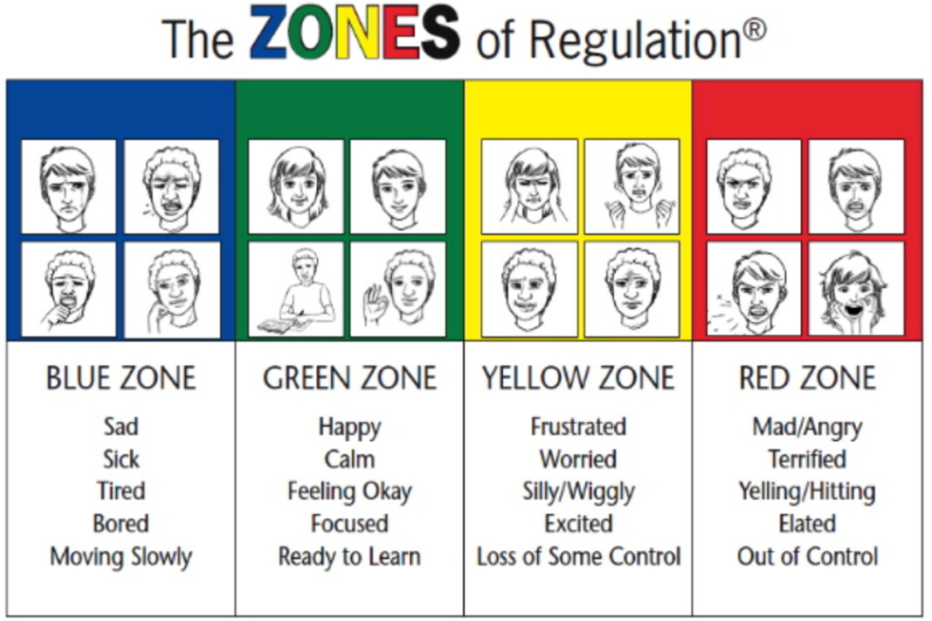
The Zones of Regulation

Does your student know how to regulate his/her emotions and behaviors?







Helping teachers and other professionals know when a student is in the "learning zone."

https://www.socialthinking.com/Products/Zones%20of%20Regulation

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Taking it a step further…

Name: Date:

1	2	3	4	5
Calm	Calm and collected	Getting there	So close to being there	Furious

1	2	3	4	5
Go about my day	Ignore if I need.	Talk with a trusted staff. Step away from the information at hand (room, gym, off unit if it's an option).	Go to room. Go to gym. Go off unit if an option. Read the Bible. Pray.	Read the Bible. Pray. Isolate myself from others. Talk to roommate. Talk to trust staff. Journal my thoughts for next therapy session.

I am currently **feeling** _____.

I am at a number # _____ on my scale.

What should I do to manage this feeling?
Circle a coping skill:

1. Step away from the situation.
2. Take a walk around the building.
3. Take deep breaths.
4. Pray
5. Talk to a staff
6. Draw
7. Journal

Is this an appropriate coping skill to use at this time?
If **YES**, proceed.
If **NO**, pick an alternative solution.

Did this help me?
If **YES**, continue on with programming.
If **NO**, use another skill.

Take them everywhere…

One word on Cognitive Behavioral Therapy…

- Traditionally, therapeutic strategies are often adapted to fit ASD
- One study found CBT focused on feelings and stress reduction decreased depressive symptoms in ASD population

McGillivray, J.A. & Evert, H.T. Autism Dev Disord (2014) 44: 2041. https://doi.org/10.1007/s10803-014-2087-9;;
Chalfant, A.M., Rapee, R. & Carroll, L. Autism Dev Disord (2007) 37: 1842. https://doi.org/10.1007/s10803-006-0318-4

Pharmacological Management in Autism

- Basic Considerations
  - Medications should be used in combination with other modalities
  - Assessment should be performed by trained professional (pediatrician, DB pediatrician, child and adolescent psychiatrist)
  - If complicated or more than one suspected co-morbidity, want to consider a specialist
  - Changes in behavior with medication should be tracked and monitored for response/side effects

Pharmacological Management in Autism

- Basic Considerations (continued)
  - With medications:
    - Start Low and go Slow
    - But you may not always end up there!
    - FDA approved (very little!)
    - Off label (most!)
    - Should always be used in combination with non-pharmacological treatments because this is best practice.

Pharmacological Management of Major Depressive Disorder in Autism

- In typically developing children, SSRI are first line pharmacologic treatment for MDD
- Limited studies of SSRI use in ASD
  - These studies do not use depression as primary outcome
  - Most studies focus on repetitive behaviors, obsessions, self-injury, core features of autism
- Cochrane Review of Tricyclic Antidepressants in ASD
  - Review of three studies
  - Data mixed with increased risk of significant side effects including sedation

Ghaziuddin M, Ghaziuddin N & Greden J. e. J of Autism and Developmental Disabilities Vol 32 (4) Aug 2002.
Williams K et al. Cochrane Database Systemic Review 2013 Aug 20; (8): CD004677
Mayes, SD et al. t. Res Autism Spectrum Disorder 2011; 5: 474-485.

Pharmacological Management of Major Depressive Disorder in Autism

- Case studies have shown variable response to SSRI in depression
  - There is increase in side effects
- RCT data is lacking!

Ghaziuddin M, Ghaziuddin N & Greden J.. J of Autism and Developmental Disabilities Vol 32 (4) Aug 2002.
Ghaziuddin M, Tsai L, Ghaziuddin N. J Am Acad Child Adolesc Psychiatry. 1991 May;30(3):508-9.
Boyd, K., Woodbury-Smith, M., & Szatmari, P. (2011). *Journal of Psychiatry & Neuroscience : JPN*, *36*(4), E35–E36.

Pharmacological Management of Bipolar Disorder in Autism

- RCT data is lacking!
- Atypical Antipsychotics
  - Risperidone and Aripiprazole are FDA for irritable behaviors in autism
  - Used to target mood symptoms in autism
  - Used treatment of bipolar disorder in typical developing children:
    - FDA Approved: Risperdone, Aripiprazole, Olanzapine, Quetiapine, Asenapine

Frazier JA, Doyle R, Chiu S, Coyle J T. *American Journal of Psychiatry*, 159(1), pp. 13–21

Pharmacological Management of Bipolar Disorder in Autism

- Lithium
  - Case studies showed positive response
- Depakote
  - Case studies showed positive response in ID
- Side effects
  - As with antidepressants, more sensitive
  - One study, approximately 30% of children with DD on antipsychotics had dyskinsea

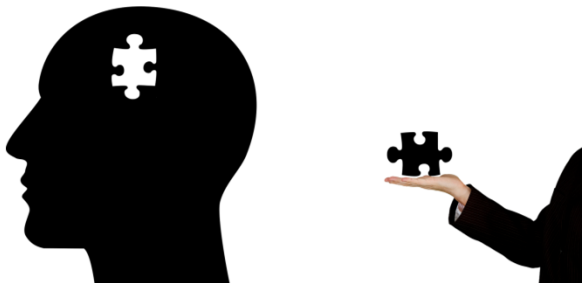
Sovner, R. (1989).. The Journal of Clinical Psychiatry, 50(Suppl), 40-43.
Kerbeshian J1, Burd L, Fisher W. J Clin Psychopharmacol. 1987 Dec;7(6):401-5
. Campbell M1, Armenteros JL, Malone RP, Adams PB, Eisenberg ZW, Overall JE. J Am Acad Child Adolesc Psychiatry. 1997 Jun;36(6):835-43.

What to do When Supports/Interventions Prove Ineffective

1. Stop and reassess
2. Gather opinions from multiple sources, informants
3. Questions to ask:
   - Incorrect conceptualization?
   - Something in environment has changed?
   - Has something I have done (via medications) made things worse?
   - Which supports are working? Which are not?
4. Have honest and open dialogue with parents regarding response
5. Call for re-enforcements!

Our Student (Treatment)

- RG's Clinical Course
  - As a team, we sat down with residential and school staff, and openly discussed symptoms/concerns/questions
  - Found that in certain environments, he was more prone to comply with requests and was less withdrawn
  - Examinations of those environments showed they were providing a shorter course of work and then reinforcement
  - Residential team encouraged parents to visit more often and complete schedules while he was in their care
  - Staff became more adept at detecting his protest behavior and language, and they were able to provide appropriate breaks



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Question & Answer

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