Rigidity, Perseveration, and Getting Stuck

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Restricted, Repetitive Behaviors and ASD

- "Restricted repetitive behaviors are a heterogeneous group of behaviors, ranging from repetitive movements of the body to more cognitively-mediated symptoms such as intense interests or pre-occupations." (Esbensen, Seltzer, Lam, and Bodfish; 2009)
- "a broad range of behaviors including stereotypies, rituals, compulsions, obsessions, perseveration, and repetitive or stereotyped use of language." (Watt, Wetherby, Barber, Morgan; 2008)

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Terms and Definitions

- Perseveration: difficulty shifting from a task, thought, verbalization, frame of mind, etc…
  - May persist after it has stopped being a useful to engage in that behavior
  - May continue even though has not achieved a good developmental outcome
- Rigidity: inflexibility in thinking and/or processing
  - AKA: Getting stuck
- Circumscribed interests: one, or more, intensely focused areas of interest. May be characterized by:
  - An exclusion of other activities and interests
  - An encompassing pre-occupation
  - AKA: Special interests, Restricted Interests, Fascinations, Preoccupations
- Stereotyped patterns: repetition of certain movement patterns, including rocking, flicking, flapping, twirling, bouncing movements

Repetitive Behavior in Autism (Turner, 1999)

- Repetitive behavior as homeostatic mechanism: repetitive behavior serves to reduce chronically high arousal levels
- Repetitive behavior as operant behavior: learned or operant behavior that is maintained by the reinforcement that it provides
- Repetitive behavior as the result of impaired mentalizing ability: Baron-Cohen suggested that it developed as a coping mechanism that allows the autistic individual to reduce the high level of anxiety resulting from a primary impairment in the ability to understand and infer the mental states of others.
- Repetitive behavior as a result of weak central coherence: Frith and Happe propose that the cognitive style of individuals with autism is characterized by preferential processing of local rather than global features of the environment.

Cognitive Factors Influencing Perseveration, Rigidity, and Getting Stuck

- Repetitive behavior as a symptom of executive dysfunction: direct, naturalistic manifestation of executive dysfunction, which renders the individual with autism unable to generate, plan, and control behavior in the usual manner. (Turner, 1999)
- Executive functions which may be involved:
  - Working memory
  - Set shifting
  - Impulse control/response inhibition—inhibiting a prepotent response

Sensory and Restricted, Repetitive Behavior

- Although not directly identified as a factor in restricted, repetitive behavior, sensory dysregulation can play a significant function:
  - May provide the source of reinforcement for the "learned" behavior
  - May be a part of the cause of the over-arousal
  - May interfere with ability to access higher functioning skills (including mentalizing): if focused on flight or fight difficult to access higher order thinking skills

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Neural Underpinnings of Restricted, Repetitive Behaviors

- Rojas et al., 2006: Increases in gray matter volume in caudate nuclei, multiple frontal and temporal regions; and decreases in gray matter volume of cerebellum partially correlated with repetitive behavior
- Hollander et al., 2003: reduction noted in the peptide Oxytocin linked with repetitive behavior
- Solomon et al., 2009: reduction in overall connectivity between frontal, parietal, and occipital regions influences overall cognitive control

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Questions to Ask About Persistent, Repetitive Behavior (Ory, 2004)

- What is just something to do?
  - Time-filling activity. Sensory self-stimulation.
- What is behavioral?
  - Learned habits and rituals. Somehow functional
- What is neurological?
  - Brain-based. Person may not be able to self-initiate a shift of attention, or start/stop a behavioral sequence
- What is psychiatric?
  - Obsessive-compulsive, anxiety controlling

Different Functions of Persistent, Repetitive Behavior (Ory, 2004)

- Overcoming boredom
  - Repeating action as “something to do”
  - With alternative suggestion, moves on.
  - Sensory-motor activation. Achieving physical comfort.
  - Exaggerated by anxiety.

Different Functions of Persistent, Repetitive Behavior (Ory, 2004)

- Maintaining cognitive comfort
  - It's more familiar and easier this way.
  - Overcoming cognitive deficit through habit
  - Behavioral-cognitive
  - Exaggerated by anxiety

Different Functions of Persistent, Repetitive Behavior (Ory, 2004)

- Motor rituals are more familiar and comfortable
  - It feels better to do it the same way all the time
- Overcoming insecurity/uncertainty through ritual
  - Comforted by familiar, well-rehearsed rituals
  - Repeatedly asks questions till answered
  - Emotional-behavioral
  - Exaggerated by anxiety

Different Functions of Persistent, Repetitive Behavior (Ory, 2004)

- Overcoming lack of internal boundaries
  - Constant “limit testing,” looking for predictability
  - With clear, external limits, no testing
  - Emotional-behavioral
  - Exaggerated by anxiety

Different Functions of Persistent, Repetitive Behavior (Ory, 2004)

- Obsessive thoughts-compulsive behavior
  - Can't move on, even with prompts
  - Resists interruption
  - Stuck in thought-action
  - Overwhelmed by thoughts that produce anxiety
  - Psychiatric
  - Exaggerated by anxiety

Different Functions of Persistent, Repetitive Behavior (Ory, 2004)

- Maintaining personal continuity
  - Linking our actions in space and time
- Overcoming “discontinuity”, inability to sequence
  - Repeating acts keeps one’s place in time and space
  - With external structure, moves on
  - Cognitive-neurological-behavioral
  - Exaggerated by anxiety

Functions of Special Interests (Attwood, 2007)

- To overcome anxiety
- A source of pleasure
- A means of relaxation
- An attempt to achieve coherence
- Understanding the physical world
- The creation of an alternative world
- A sense of identity
- To occupy time, facilitate conversation and indicate intelligence

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Rigidity and Challenging Behavior

- It is a natural response to become rigid when we perceive that someone we are dealing with is becoming, or has become rigid.
  - This is a very low level response cognitively—fight or flight
- If we respond to someone who is being rigid, with rigidity of our own, the individual will become more rigid (in most cases).
- By being aware of this, we can alter how we respond to rigid behavior (by activating our own higher level thinking and reasoning patterns).

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Techniques to Address Restricted, Repetitive Behaviors

- Start by analyzing:
  - Environment—sensory impact, clarity
  - Structure—schedules/routines/rituals
  - Interactions—social factors
  - Tasks—nature, complexity
  - Cognitive factors—boredom, over-stimulation, under-arousal, processing (speed, efficiency), competing thoughts
  - Functions—i.e., boredom, continuity, etc…
  - Consequences—reinforcement for, and punishment around, the behavior
  - Supports—in place for the child (individualized to the child's needs)

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Techniques to Address Restricted, Repetitive Behaviors (Dawson, Guare; 2009)

- Control schedules and routines as much as possible—attempt to adhere to them as can (find a way to signal changes in schedule)
- Introduce incremental change—rather than chaotic, or multi-focal change (don't introduce a lot of change all at once)
- Reduce novelty of situation—utilize the familiar to introduce novel information, situations, etc…
- Reduce complexity of the task (while maintaining the **intent** of the learning)—break tasks down into meaningful parts (task analysis)
- Provide choices (where at all possible)
- Increase level of support around the task

Responding to Someone Who Has Gotten Stuck

- Remember to try to remain calm, and as flexible as you can
  - Low and Slow
- Remember that the goal is to help the student/child to become "unstuck"—which may be different than simple compliance
- Allow silence and time—cue student/child when you will come back to them
  - Cueing also serves as priming to help them to get unstuck

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Techniques to Address Restricted, Repetitive Behaviors

- Contingency modification procedures: based on the theory that these are learned behaviors; differential reinforcement and over-correction
  - Differential reinforcement—differential reinforcement is the reinforcement of one form of behavior and not another, or the reinforcement of a response under one condition but not another.
    - Types:
      - Differential reinforcement of alternative behavior: a behavior that is an alternative to the target behavior is reinforced while the target behavior is ignored
      - Differential reinforcement of incompatible behavior: behavior that is incompatible with a target behavior is taught and reinforced
      - Differential reinforcement of other behavior: any other behavior besides the target behavior is reinforced for a specified interval
  - Overcorrection: having the student engage in a behavior repetitively to interrupt the pattern

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For Special Interests (Attwood, 2007)

- Controlled access
  - Limit time available using a clock or timer
- Modifying or removing unacceptable interests
  - Using a Social Story to explain social conventions involved
  - Comic strip conversations
  - Introduce a replacement interest
- Constructive application
  - Employment—areas of interest
  - A means of making friends—around common areas of interest
  - Just Give Him the Whale!

Just Give Him the Whale! (Kluth, Schwarz; 2008)

- A wonderful resource for using areas of interest, fascination, strengths, and expertise to support students with autism
- Specific examples are given in the areas of:
  - Developing a relationship with the student
  - Expanding social opportunities
  - Expanding communication skills and opportunities
  - Helping minimize anxiety
  - Planning for inclusive schooling
  - Building classroom expertise
  - Boosting literacy learning
- Specific examples (cont.)
  - Comfort
  - Inspiring career ideas
  - Encouraging risk taking
  - Connecting students to standards-based content
  - Encouraging in-depth study
  - Making sense of a confusing world
  - Letting students shine
  - Giving students “power”
  - Encouraging chit-chat
  - Boosting mathematics skills
  - Teaching manners, cooperation, and expression of empathy
  - Encourage greatness
  - Making life worth living

Just Give Him the Whale! (Kluth, Schwarz; 2008)

- Example: Related to Anxiety
  - During times of challenge, surround the child with images or reminders of his or her favorite things. Decorate locker, notebook, or desk with comforting images.
  - Teach the student to calm him-or herself by conjuring up thoughts of favorite things during tense times. Help the student construct a specific visualization consisting of a series of mental pictures that he or she can call on during frustrating times.

Cognitive Behavioral Interventions (Paxton, Estay; 2007)

- Reframing
  - General method of changing the meaning of something and thus changing the underlying thinking
  - When they become stuck in one-way thinking without being able to see that there are alternatives
  - Reframing the meaning of a situation: open thinking towards alternative possibilities, thereby creating a change in meaning
  - Reframing the context: provides a positive function or usefulness for behavior and reduced generalization
  - May use cartooning to help with reframing

Prop-Rule-Role (Ory, 2004)

- A technique used to reduce anxiety by using rules and rituals to make the abstract concrete and assist the person with ASD in coping with abstract.
- A concrete rule is provided to follow, a prop that acts as a cue or reminder of what they are supposed to be doing is provided, and a role is given that fits the situation (Paxton, Estay; 2007)
- Example: Hand someone with autism a dishtowel when they enter the kitchen. The dishtowel serves as the prop, role of drying dishes has a definite set of rules and routines that assists in completing the task correctly, and anxiety is reduced as the script/routine is familiar. (Paxton, Estay; 2007)

Encouraging Flexible Thinking

- Superflex Curriculum and Social Thinking Curriculum from Michelle Garcia Winner
  - Superflex curriculum introduces language for discussing and working on social, flexible thinking, as well as more restricted thinking patterns
  - May need some adaptation for many adolescent learners
- Model flexible thinking
  - Demonstrate, and verbalize, your own flexibility in thinking during a situation
- Provide choices
- Teach flexible thinking
  - May need to gauge where the child is at (grade the degree of "flexibility" that you are working on
  - Provide structure in an area (i.e., choices that child can make vs. things provided) to allow for flexibility in another area

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References and Resources

- Attwood, T. The Complete Guide to Asperger's Syndrome
- Dawson, P; Guare, R. Executive Skills in Children and Adolescents
- Dawson, P; Guare, R. Smart but Scattered
- Kaufman, C. Executive Function in the Classroom: Practical Strategies for Improving Performance and Enhancing Skills for All Students
- Kluth, P; Schwarz, P. Just Give Him the Whale!: 20 Ways to Use Fascinations, Areas of Expertise, and Strengths to Support Students with Autism
- Meltzer, L. Promoting Executive Function in the Classroom: What Works for Special-Needs Learners
- Paxton, K; Estay, I. Counseling People on the Autism Spectrum
- Richman, S. Encouraging Appropriate Behavior for children on the Autism Spectrum