

Autism and Everyday Executive Functions

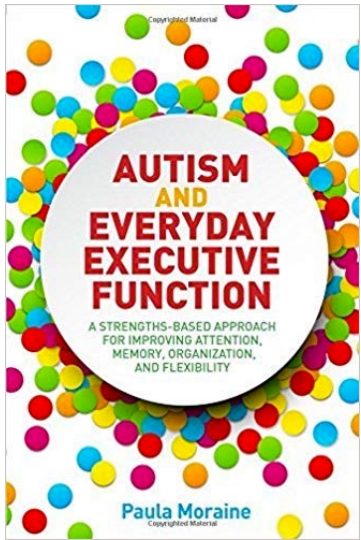
Pathfinders for Autism
The Howard County Autism Society

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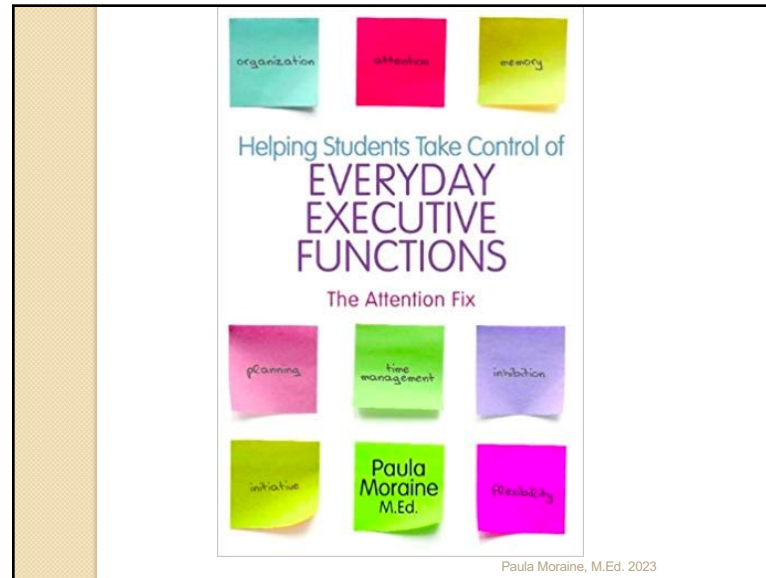


AUTISM AND EVERYDAY EXECUTIVE FUNCTION
A STRENGTHS-BASED APPROACH FOR IMPROVING ATTENTION, MEMORY, ORGANIZATION, AND FLEXIBILITY

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SALUTOGENESIS (the origin of health)

A Sense of Coherence

- ⦿ Comprehensibility
- ⦿ Manageability
- ⦿ Meaningfulness

⦿ (Aaron Antonovsky)

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Salutogenesis is the outcome we want to achieve: the ability to generate a new meaning, manage resources, and understand our situation.

Families are hoping we know how to help them achieve this new place, a place of wellness and wholeness. Some families figure out how to reach this place on their own, and some need a bridge.

The term **salutogenesis** is the ability to create or generate health and well - being even in the face of life's inevitable stressors.

Whitney and Pickern (2014)

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ABLEISM

Ableism is the discrimination of and social prejudice against people with disabilities based on the belief that typical abilities are superior. At its heart, ableism is rooted in the assumption that disabled people require 'fixing' and defines people by their disability. Like racism and sexism, ableism classifies entire groups of people as 'less than.' and includes harmful stereotypes, misconceptions, and generalizations of people with disabilities.

<https://www.accessliving.org/newsroom/blog/ableism-101/>

Ranges from overt actions (segregation) to unconscious bias or attitude that the other needs to be fixed or changed.

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Our Use of Language to Describe Both Students and Behaviors

- Salutogenesis
- Coherence
- Modulation
- Integration
- Coordination
- Competence
- Self-Confidence
- Balance
- Self-Regulation
- Maladaptation
- Dysregulation
- Dysfunction
- Disruptive
- Defensiveness
- Faulty (Sensory Processing)
- Lazy/Unmotivated
- Unresponsive

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How we use Executive Function

- To express how we
 - Think
 - Feel
 - Act
 in relation to the world around us

This is **AUTISTIC SUBJECTIVITY** – how the individual autistic person structures his or her use of Executive Function so they can engage with those in their surroundings.

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“The autistic person would prefer to *relate to* the non-autistic world rather than *adjust to* the non-autistic world. Relating to the non-autistic world is the autistic version of **empathy**.

Autistic objectivity is what makes it possible for the autistic person to discern what they are interacting with – ‘the cat’

Autistic subjectivity makes it possible for the autistic person to make a relationship with the ‘cat-ness’ of the cat, not the actual cat.

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Autism and Executive Function

- The autistic mind can be seen as a chaotic space that needs order
- The autism experience can be structured via the use of executive function
- The more functional the executive function are, the more functional social skills will become
- Autism requires more executive function structure and more precise executive function structure than normalcy

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Meltdowns and Tantrums

- Chaos reigns – inner chaos is then expressed as outer chaos.
- Emotional and Behavioral controls are not functioning
- Social interaction is not working
- Internal structures may be fragmented
- Communication is not happening

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Social Skills and Executive Function

I think that teaching executive function to people with autism is even more important than teaching social skills. Executive function needs to be learned first, and only then can we get to the social. I think that autism requires a higher degree of executive function organization to be functional than normalcy. The autistic mind is a space, often a chaotic one, that needs to be structured by the use of executive functions. (Pia Hamalainen)

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Autistic Kaleidoscope: Getting out in front of the meltdown

Autistic Kaleidoscope, where the inner and outer experiences of the autistic individual may appear fragmented to the observer but are clearly ordered and patterned experiences for the autistic person.

Executive Functions are what bring order and harmony to these varied, complex, and at times fragmented kaleidoscopic experiences. Developing executive skills brings order into the chaos.

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Autistic Kaleidoscope

- **Autistic subjectivity** is the personal, internal experience of autism
- The inner and outer experiences of the autistic individual may follow a different set of patterns
- Order, organization, and the executive skills are highly individualized. Each individual with autism will manifest a wide variety of strengths and weakness in relation to executive function
- **Relating** to the non-autistic world rather than **adjusting** to it can be described as the autistic version of empathy
- Autism is an experience of greater sensitivity and greater precision

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Sensory Kaleidoscope

- Sensory Integration vs Sensory Coordination
- Trying to integrate too many sensory inputs at once can cause feelings of panic, resulting in rigidity.
- Coordinating sensory inputs allows the student to manage one or two sensory experience at a time.
- Sensory experiences are a kind of 'gateway' to executive function

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Sensory Coordination

- Sensory *integration* allows us to integrate our sensory experiences, but for the autistic person it is often a question of *coordinating* the sensory experiences, allowing the sensory input to be coordinated but not united.
- Sensory coordination allows the autistic person to focus on a single, chosen aspect of sensory experience, and not be overwhelmed with the whole sensory palate at once
- Sensory coherence leads to a higher degree of access to the executive functions, and ultimately the autistic person becomes more socially functional.

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Dysfunction in sensory processing is a developmental delay, and deficits in the sensorimotor system can compromise a child's capacity to respond to adult directions without non-engaging behaviors. For example, when a child is overly focused on her internal sensations (tags irritating her, noise perceived as painful, a very distracting runny nose), she is not available to attend to external demands (looking at peers to recognize social cues or hearing the teacher's instructions).

FAULTY SENSORY PROCESSING
=
FAULTY RESPONSE
(VIEWED AS DISRUPTIVE BEHAVIOR)

Whitney and Pickern (2014)

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Autistic Languages – Giving Voice to Autism

- Emotional, social/pragmatic, visual, conceptual, kinesthetic, and sensory language are used every day by non-autistic individuals
- The autistic individual may access only aspects or components of each language, resulting in what is essentially a new language
- What appears as a random gesture might be, in fact, targeted and intentional communication from the autistic child to us
- This requires some refined translation skills on the part of the teachers and parents

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Emotional Language

Emotional language focuses on how we feel – happy, sad, frustrated, enthusiastic, etc. It allows us to express how our actions make us feel – playing soccer makes me happy, folding my clothes is difficult. Emotional language also makes it possible to focus on how someone else feels, and then we can feel empathy for that person. (*Empathy for the autistic person is relating to the other rather than being able to focus on their experience*)

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Social and/or Pragmatic Language

- Social/Pragmatic language is the foundation of our interactions with others. We speak with words, gesture, and even thoughts. From our early days of infancy, we begin learning social language through exchanging gazes, reaching out to touch the world, and experiencing the warmth and care from others. Throughout child development, social language is mixed into every day and every interaction we have, so we are learning social language simultaneously with many other languages.
- Social/Pragmatic language allows us to adjust the way we speak in different situations. Pragmatic language skills make it possible for children to greet an adult cheerfully, politely, or formally, and then speak the language of a friend when playing with peers in a social setting or on the playground.

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Visual Language

Looking at pictures helps us understand the meaning and content of the scene we are seeing. Visual language helps us form mental images, which in turns improves our comprehension of the situation. Visual language brings us together with others, so that when someone is talking about soccer, we can form the mental image of playing soccer and participate in the conversation through visual language.

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Conceptual Language

Conceptual language makes it possible to explain things using words and concepts rather than pictures. A conceptual thinker might give a verbal description detailing the events of the day, or re-telling all the steps of how something was made. Conceptual thinkers can also present, or write, the pro and con arguments of an issue with ease.

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Kinesthetic Language

Kinesthetic language is the language of movement and touch. We use kinesthetic language when we move, dance, play a musical instrument, play sports, make crafts, bake bread, model/sculpt, knit, etc. We use it in combination with many other senses, but movement is involved nearly every time.

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Sensory Language

Sensory language includes all our senses. The language of touch is engaged when we touch soft/hard, wet/dry, smooth/rough, etc. The languages of smell and taste tell us if something is sweet, sour, bitter, or salty. Our smell and taste essentially tell us if something is good or bad. The sense of warmth tells us when we are too hot, too cold, or just right. It is our sensory language that establishes and communicates an overall sense of wellbeing.

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Autistic Access Points

- Autistic Access Points, or AAPs, are the ingredients or tools needed for understanding and using executive function, tailored specifically for the individual with autism
- The AAPs offer a foundation for the autistic person for interpreting, processing and understanding the world with flexibility
- The AAPs might work very differently for the autistic person than they do for the non-autistic person, but once understood, it is much easier to support, and provide validation for, the autistic person's perceptions and experiences
- The AAPs can be used to build a strong and effective executive 'toolbox' of executive skills

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Autistic Access Points

- Relationships
- Strengths and Weaknesses
- Review and Preview
- Self-Advocacy
- Whole to the Parts and Parts to the Whole
- Motivation and Incentive
- Rhythm and Routine
- Implicit and Explicit

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Executive Functions

- Attention
- Memory
- Organization
- Time Management
- Inhibition/Initiative
- Flexibility
- Control of Behavior/Emotions
- Goals

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Executive Functioning

Executive functioning refers to the central higher-order processes located in the right frontal lobe. An executive function can be defined as a major type of action-to-the-self (a type of self-regulation). Executive function deficits seem to increase in adolescents and adults.

An individual with Executive Functioning Disorder demonstrates weaknesses in:

1. **Inhibition** (interrupting one's actions and controlling the dominant response)
2. **Non-Verbal Spatial-Temporal Working Memory** (re-seeing the present and the past, resulting in deficient sense of time and time management)
3. **Verbal Working Memory** (re-hearing the present and the past and rehearsing speech to self affecting reading, listening and visualizing which impacts comprehension)
4. **Emotional/Motivational Self Regulation** (resisting distractions and delaying reactions to aim behaviors toward the future)
5. **Planning and Problem Solving** (holding complex goals in mind and assembling events in sequence to reach a goal) Can't persist toward future goals and delay gratification.

(Barkley and others)

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ATTENTION

When first discussing attention, the student has likely never really thought about how they pay attention. Some questions that can form the basis of the initial conversations with the student, but are not necessarily asked in this form, are:

- What do you naturally pay attention to?
- How do you decide what to pay attention to or choose what is important?
- How do you sort out the information coming in. What is the context?
- What are distractions?
- What are different kinds of attention?
- What might be strategies for improving attention?
- What passively engages the student's attention?
- How does the student actively engage their attention?

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**What do I give my
attention to?**

Active

**What draws my
attention?**

Passive

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Attention Controls - Mental Energy

(adapted from 'All Kinds of Minds')

- **Mental Energy**
- **Alertness**- tuned in or day-dreaming
- **Sleeping/Waking** - ease or difficulty falling asleep or waking up
- **Mental Effort** – initiating and maintaining energy fro task; doing what you don't feel like doing
- **Performance Consistency** – predictable work habits and behavior

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Attention Controls - Processing

- **Processing**
- **Saliency Determination** - Selecting what is important and deciding what you give attention to
- **Depth and Detail of Processing** – controls intensity of focus on details; supports memory for important details
- **Thinking Actively** – Connect new information to previous experience or learning; recognize important information or details
- **Maintaining Focus** – Attention span, focus on the important information for a sufficient time
- **Satisfaction Level** – ability to pay attention to details of low interest, failure to engage or concentrate unless the topic is of high interest

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Attention Controls - **Production**

- **Production**
- **Preview** – look ahead, consider the outcome before beginning, review in advance of active learning
- **Review / Retrospection** – reflect back, use previous experience and learning to guide decisions or actions
- **Inhibition** – practicing restrain, not impulsive or blurting
- **Pace** – working at an appropriate rate, not skipping over difficult parts
- **Self-Monitor** – evaluate how the task is going and change if needed

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MEMORY

Short-term Memory	Active Working Memory	Long-term Memory
Quick Storage Stores small amounts of information 7-9 items	Keeps several things in your mind while you are working Transports things into long-term memory and retrieves them again In use all the time – needed for nearly every activity as a student	Store information for a long time Storage of facts that we use over a lifetime Keeps details of systems for writing, math, etc for rapid memory – basis of automatization which is the quick retrieval of important facts

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Ways of remembering

- Visual memory – helps you remember things you have seen, such as shapes and where you leave things
- Sequential memory – order - such as numbers, months, music
- Auditory memory – what you hear, as when someone gives you verbal directions or tells you information for a lesson
- Factual memory – details, facts, specific information
- Motor procedural memory - muscle memory, how to tie a shoe
- Non-motor procedural memory - remember a recipe, knitting pattern, or long division
- Rule memory – spelling, grammar, sports rules

NOW WHAT ABOUT RETRIEVAL??

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ORGANIZATION - SPACE

- Orientation in space provides such a basic sense of security that it is hard to imagine what we would feel if we couldn't get orientated in space.
- Not being able to organize can undermine the student's ability or willingness to engage with the material or the learning process. The ensuing sense of chaos and the impact it has on the learner is to be taken seriously.
- The autistic individual can experience changes to the external space as seismic, personal, sensory assaults

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PLANNING - TIME

- ⦿ Time Management – weaving the threads of past, present, and future together
- ⦿ Year
- ⦿ Month
- ⦿ Week
- ⦿ Day

- ⦿ What are the mental pictures associated with each of these?

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Initiative and Inhibition

The **Stop** and **Go** Buttons

Initiative arises from inside the student. Does the student have the necessary skills or tools to get the work done?

Is the student being asked to do something that is too easy, too boring, or too difficult?

How does the student perceive the assignment or request for action?

Inhibition means to be able to stop/inhibit a behavior, action, response, or reaction. Why would a student stop a behavior?

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Flexibility

- Change – The autistic person can appear stubborn, when it is really low flexibility or shift.
- Transitions in time, activity, thought, feelings, social situations, between inner/outer, spoken/silent, thought/deed, etc.
- If autism manifests with a greater degree of precision and sensitivity, then these ‘change moments’ need to be controlled, possibly manifesting as stubbornness.

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Control of Emotions

Emotions are often invisible to others, and can be caused by outer events, interactions with others, or private thoughts. They can be unpredictable or consistent in relation to regular events. They can be fleeting or persistent. They can be on the scale of normal, or veer in the direction of pathological.

- Self – Expression - Expressing one’s feeling ‘in proportion’ to the events that elicited them
- Self – Control - Managing emotions in relation to over or under reactions
- Self – Knowledge - Being in or out-of-sync with people or events

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Control of Behavior

REACTION VS RESPONSE

- ◉ Reaction

Act – Re-act mode -- based on little or no reflection or self-knowledge

- ◉ Response

Includes reflection, a sense of the context, self-knowledge

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Goals

Set a goal that is comprehensible
Make sure the goal is relevant
Identify ways to make the goal manageable

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Golden Rules

- Sensory Coordination rather than sensory integration
- Autism means greater degrees of sensitivity
- Understand which language gives the individual with autism their best voice
- It is more important to teach a person with autism executive function than to teach social skills
- Change happens slowly – only change one thing at a time

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