

# **The Continuums of Autism: Cognition, Sensory Processing and Arousal**

**By Marlo Payne Rice**

Like all children, those with autism have unique sensory needs, cognitive skills, and individual strengths and weaknesses for learning. However it is common, because autism itself is so difficult to understand, for us to label all autistic children as having the same needs in an attempt to create a clean service model. Autism is messy. In thinking that all autistic children are alike we fail to recognize the sensory and cognitive continuums of the autistic individual, and in turn we render ourselves unable to provide appropriate arousal states for new learning. Furthermore, by lacking good information about learning styles and different modalities for learning, we limit the ultimate potential for our autistic children by expecting them to succeed in our traditional language-driven model of education.

For new learning to occur, each of us must have the right amount of information coming in. Not too much, not too little, a calm yet alert state. When things are coming at us too quickly, we feel anxious and over stimulated. This causes us to shut down, tune out or avoid outside stimulation by hyper-focusing on a particular subject or activity. Not enough information results in feelings of boredom, restlessness and irritability. In turn, we fidget, seek novel stimulation, self stimulate or daydream. For the autistic individual, the ability to find the perfect state is difficult because so much energy is consumed through the simple tasks of seeing, hearing, touching, tasting, feeling pressure and motion and regulating body systems. When we recognize that autism itself is an extreme state of sensory integration and modulation difficulty, it is not hard to understand why social interaction, attention and learning become problematic. Simply put, these children are not “in” their bodies.

Further complicating the picture is the role that is played by the adrenalin response process. We each have a biological system that prepares us to fight or flee in a dangerous situation. This body reaction gives us energy to keep going, even if we are exhausted. Breath, blood flow, pupil response, respiration, skin sensitivity etc. all react when we are over our limit. Yet for the autistic individual the over-the-limit state becomes the norm as they attempt to fit into our sensory rich, language-based, socially intensive world. For many autistics, the adrenalin state that is usually reserved for crisis becomes a habitual pattern of anxiety, withdrawal, feelings of fear and panic and, if forced to keep going, behavioral reactivity. In order to effectively deal with adrenalin issues for our autistic children, we must understand arousal, identify the individual sensory issues of each autistic child, (because each is very different), and provide sensory accommodation and modulation training to help them feel safe. To do this we often must rely on their behaviors to tell or show us what we can do to bring them to a calm/alert state. All too often, we focus on eliminating or substituting these “needful” behaviors, and as such, we miss the best clues we have in working with the over aroused autistic individual. Once these children are safely in their bodies then they can find the calm and alert state that is necessary for us to begin addressing their cognition and learning.

Historically, autism has been associated with mental retardation. Up until the late 80’s, published college textbooks taught that 75% of all autistic individuals had inferior mental capacities. Yet as early as the 1943’s, and at the same time Dr. Leo Kanner was laying the foundation for the autistic diagnosis, Dr. Hans Asperger described a “little professor phenomenon” indicating that intelligence was present in the autistic population. Kanner, the “father” of autism, ultimately won the popular vote and we defined intelligence in autism as a characteristic set of specialized “splinter skills.” For many years, all autistics were thought to be of somewhat inferior

intelligence. It has only been since 1981 that we have begun to identify those individuals with high functioning autism or Asperger's as "normally" intelligent. Even today however, I find it impossible for educated professionals to recognize giftedness in autism once the autism label has been assigned. I still hear the argument that the child may have average intelligence but those characteristics that we would usually associate with giftedness in other populations are, for the autistic spectrums, splinter skills. We have a long way to go in our understanding of the continuums of intelligence and this in turn will ultimately define our delivery of appropriately challenging services and programs for autistic individuals. For now, as a professional specializing in gifted and learning disabled individuals, I am constantly faced with highly intelligent and even gifted autistic or asperger's children who, because of language, social delays or behavior are served in self-contained learning labs alongside those individuals with severe mental retardation.

Furthermore, and in addition to our lack of understanding about cognition, we also fail to recognize the autistic as different minded. "Eureka," a term coined from the non-linear, deeply abstract thoughts of a physicist in his bath, best characterizes the thinking of the autistic individual. Yet because we define education as a verbally acquired, linear, sequential system of thought that is demonstrated through speaking and writing, little room for strength-based learning is given to our autistic individuals. It is about time we recognize that our existing systems of education do not work for our autistic children, or for many other visually minded children. So, faced with the obstacle of teaching the abstract, visual and kinesthetic child in our language-based school system, much emphasis is given to emotional, social and behavioral modification and little actual learning is obtained. Yet, it is my experience that in the higher cognitive ends of the autistic population, if appropriately placed in settings that do provide adequate cognitive challenge and good multi-sensory learning, these children find success as adults in our world of technology. Today, individuals no longer need to remember oral facts. Intelligent, "eureka" thinking, supported with secretaries and advanced organizers, allows these individuals to revolutionize our world. Why then can we not rethink education for some of our most alternative minded children and teach the autistic population within their innate areas of strength? We assume that the goal is to "fix" the autistic child, making them more like their peers, when it is my opinion that we should help them find ways to achieve their potentials, find their unique strengths and ultimately have a place in our society where they, like all children can contribute and feel successful in their own way.

In conclusion, I believe that once we can identify and modify our schools, support programs and our community at large, on the basis of the sensory needs, arousal issues, cognitive continuums and learning styles, we will then be able to tap the invaluable resource of our different-minded, "eureka" thinkers. While autism may be on the extremes of the continuum, if we pay attention, we find that each of us, at times, has a little taste of the autistic world. Every once in a while, we ourselves fall into the adrenalin state, or we find ourselves cognitively under or over challenged. Some days we can't find our words, or the thought of facing yet another social event might feel too exhausting. Perhaps when we experience these bits of autism ourselves, it is then that we can begin to see this condition as part of a continuum. Autism isn't really so difficult to understand. But, it is time for us to acknowledge intelligence in autism and create a better system of education. We must teach our unique children how to find their own calm/alert learning state, and, at long last, perhaps we ourselves need to locate that arousal balance point in which we have enough information to stay excited and engaged, but not so much that we lose those defining moments of peace and self-reflection.