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The Positive Effects of Drumming on Children with Autism

By Robert Damm, PhD, and Dr. Stephen Workman

Autism Spectrum Disorder (ASD or autism) most commonly affects a person's ability to communicate clearly and relate to others. It can present itself in many different ways and depths. Some with autism lack the ability to communicate beyond a few words at a time in short choppy phrases, while less severe forms allow others to participate in normal daily activities with only subtle hints that they are actually autistic. The disorder hinders the communication occurring in different parts of the brain. Doctors are not completely sure what the exact causes of autism are, but there seems to be a genetic link that can be inherited within a family. Many people with autism also have other learning disabilities such as ADD, ADHD, or anger management issues. A lot of progress is being made towards understanding the causes of and effective treatment or management of autism.

Since autism is a disorder that occurs when the brain is forming and developing, most of the symptoms become obvious during the early stages of life when a child is learning to talk, play with other children, and learn different behaviors. Parents may notice that their children play alone, don't make eye contact or respond when spoken to, are having trouble communicating at their age level, or have lost some of their previous communication skills. Sometimes autistic individuals have high levels of anxiety or nervousness, or they develop repetitive movements such as high amounts of rocking. Other behavioral difficulties include anger and/or frustration, decreased patience, and difficulty following instructions and/or cooperating.

A variety of techniques are used to help people with autism. Since there are so many ways that autism can present itself, treatments are unique to each individual. Common methods include physical therapy, speech therapy, and medications. Recently, music therapy has shown great success, and has been added as a well-respected treatment option.

WHY DRUMMING?

While individuals with autism face many challenges including communication and repetitive "tick-like" behaviors, they often excel in music,

math, art, and visual skills. The combination of math, music, hands-on stimulus, and repetition makes drumming a good fit. Experience has shown hand drums to be particularly effective with autistic students. The singularity of a hand drum reduces the possibility of overwhelming the student while allowing numerous playing options. Students are able to express themselves, be creative, and have a physical outlet.

WORKING WITH AUTISTIC STUDENTS

The authors have taught many autistic students and have noticed similarities in how these students have responded to drumming. In particular, Neal and Susie (whose names have been changed to protect their privacy) are examples of success.

Neal

Neal took hand drumming lessons. He is a highly verbal, creative, and imaginative boy who loves to tell stories. He learned to make a wide range of sounds on his djembe using a series of techniques (e.g., bass, open tone, muffled stroke, "swish" with fingertips, etc.), along with a number of rhythms/patterns. He was especially responsive to the integration of story-telling and drumming. For example, *Hand, Hand, Fingers, Thumb*, (Dr. Seuss), had a recurring text of "Dum ditty Dum ditty Dum dum dum," which was played as "Ta ti-ti ta ti-ti ta ta ta" or "1 &-uh 2 &-uh 3 & 4." In a similar way, Neal played rhythms from *Tanka Tanka Skunk*, inspired by the syllabication and rhythms of words and phrases consisting of animal names. For example, Neal interpreted "tiger zebra alligator fox" on the drum as "Ti-ti ti-ti ti-ri-ti-ri ta" or "1 & 2 & 3-e-&-uh 4." Soon, Neal was composing his own rhythms in association with characters he created.

In terms of strictly musical and drumming objectives, Neal worked on consistency of technique and sound production, and awareness of handing (right and left). His weekly djembe lessons included improvising, composing, and memorizing a variety of rhythms. He composed rhythms that represented many different styles and meters, each of which he named to correspond with a character in his story.

Neal would tell his story, and with the introduction of each new character, he would play the associated rhythm. Every week he would review his list of rhythms, retell the story (with integrated drum rhythms) he had previously created, and then continue the expanding narrative by adding new characters (with drum rhythms) and developing the plot.

Each week Robert transcribed Neal's text and typed new pages for him to add to his book. He was always positive and excited to be playing, composing rhythms, and telling his stories. He always seemed to enjoy his hour-long lessons. Sometimes, when his mother dropped him off for a lesson, she would say, "He's had a bad day, so if he is unable to focus or if he causes you any trouble, please give me a call and I'll come and pick him up." Robert never had to call her; he was always excited to play.

Neal and his family moved to another state, so Robert is not teaching him anymore. Robert contacted Neal's mother to ask her to reflect on what she perceived as the benefits of having Neal in drum lessons and to have Neal recount his memories of taking drum lessons. Here is her response:

"My youngest son was born with a chromosome deletion that manifests in multiple disorders, but when he is drumming, he is just Neal. Neal with his drum. During drumming lessons, he can escape labels, while at the same time benefit from several different aspects of the drumming as therapy. First, drumming is an excellent creative outlet, but it is also an activity that provides proprioceptive input. For someone like Neal with sensory processing issues (part of his ASD diagnosis), the sensory feedback he gets from hitting the drum facilitates self-awareness, orienting his body in the space he occupies. Although he does not hit the drum hard, he still experiences pressure through impact that gives his brain the necessary signals it needs to help him respond more appropriately to his environment. That same sensory input is calming as well as organizing, which in turn, can foster Neal's ability to quiet his otherwise often erratic behavior in order to process and respond to what he observes. In addition to sensory processing challenges, Neal copes with ADHD. Being able to focus on a given activity at specified time

and follow directions are all a challenge for Neal in most environments due to his high energy and impulsivity. However, when he is drumming, he is able to do all those things with much more consistency. Dr. Damm allows Neal to incorporate storytelling (a much preferred activity with the drumming lessons) using rhythm to identify characters and events, and because Neal is the one inventing the story, he is engaged with the lesson and attentive to the instruction. That's not to say that Neal doesn't sometimes get carried away with his storyline or that he doesn't still need prompts to call his attention to a particular concept, but with the drum as mediator, Dr. Damm can redirect Neal to interpreting the story into the rhythms they are learning."

According to Neal, "Making the story about animals with the drum is extremely fun. I like figuring out which tunes should be louder and which ones should be not louder." As even Neal recognizes, the drumming also helps him learn to regulate sound, particularly in terms of volume. He is in speech therapy to help him learn to modulate his own voice much like he is learning to control the drum's volume. With that correlation, we have a frame of reference to share with the speech therapist. Now she can give him prompts, such as, "Neal, talk like it's the quiet part of the story, so you don't scare the animals like a loud drum."

Due to a learning disability, Neal also has difficulty recognizing patterns. Drumming helps him improve by involving patterns through rhythm. Neal learns to recognize and repeat patterns with the positive reinforcement of making music and telling his story. Through drum lessons, Neal has not only received support for multiple daily issues, but he has also created an imaginative story interpreted through drum music. That is what motivates him to actively participate each week and thereby continue to receive that support.

Susie

Dr. Damm has also encountered children with autism in drum circles he facilitated. Susie has been a part of two drum circles offered for members of her church. She seemed to enjoy being with the group and playing various drums and percussion instruments. Her mother provided these comments about Susie's involvement with drum circles:

"Susie has fairly severe characteristics. She has very low receptive language skills. Her spoken language is limited to single words and a few rare, mostly scripted, sentences. She does not do well in loud, crowded spaces. She can read, but doesn't understand everything. She is good at math, but has trouble following the teacher's instructions. She gets frustrated and has serious anger-management problems. She has a photographic memory and draws with crayons as often as possible. Susie has perfect pitch. She does not sing often, but when she does it is quite lovely.

"Drum circles are one of the few group activities that she can actually participate in just like everyone else. She clearly enjoys participating and being just like everyone else. (I have watched her looking around at other people in the drum circle. She does

The singularity of a hand drum reduces the possibility of overwhelming the student while allowing numerous playing options.

not usually pay much attention to others.) She does well and clearly enjoys it, but usually has to stop a little before everyone else. The loud sound and all the people moving becomes overwhelming for her.

"Speech therapists who work with children with autism frequently incorporate musical elements. Susie's therapist has her mimic drum patterns. The idea is that the rhythm patterns are like sentences. The therapist uses a metronome system that requires Susie to clap in sync with the system and measures her accuracy. The therapist asks questions while Susie is clapping. The idea is to improve Susie's executive function by having two parts of her brain working at the same time. Susie also works with a music therapist who does all sorts of other things with her. Susie sings songs to learn words and has special CDs that teach math, days of the week, money, etc. The music therapist composes songs for Susie as needed."

Susie's mother gave a few more comments about the music benefits for children with autism: "I try to use music to calm her down. I think low drum rhythms are helpful, but there are definitely parts of some music that bother her. Susie loves horseback riding and has participated in therapeutic riding for about 10 years now. She likes the rhythm of the horses. One of the criteria for a horse to participate in therapy is a regular gait."

CONCLUSIONS

Drumming has been clinically proven to help those with ASD find a positive outlet for their energy and creativity while potentially having a calming effect. The patterns and rhythms students learn are not only used to help them musically, but these concepts are also applied to help them with speech development, focus, patience, and general self-control. The behavioral skills learned during drum lessons help them to more easily assimilate into everyday society.

Dr. Robert J. Damm is Professor of Music and Director of Music Education Partnerships at Mississippi State University, where he teaches African American Music, World Music, and Recreational Drum Circles. He directs Jembe Den, a community percussion ensemble specializing in the traditional dance rhythms of Mali and Guinea. He has studied music and culture in Cuba, Ghana, and Mali. He is a certified Orff-Schulwerk teacher and a Smithsonian Folkways certified teacher of world music. He is an active member of the PAS Interactive Drumming

Committee and has served as President of the Mississippi PAS chapter.

Dr. Stephen Kyle Workman is a chiropractor practicing in Cedar City, Utah. In addition to his Doctorate in Chiropractic (University of Western States), he has bachelor's degrees in Human Biology (UWS) and Exercise Science (Southern Utah University). He is currently finishing a Masters in Sports Medicine (UWS). Dr. Workman is a member of the PAS Health & Wellness Committee and the Performing Arts Medicine Association. He has been a drummer/percussionist for over 25 years with a focus on drumset, hand percussion, and theater. He has been a private music instructor for over 15 years for students of all ages and interests. For questions or references, he can be reached at DocSWorkman@gmail.com. **PN**