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# Drumming for Brain Development and Mental Health Conditions

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**Summary:** Most (if not all) human societies have societal practices such as drumming, singing or dancing to a beat. Modern neuroscience is starting to confirm what most drummers already know intuitively -- that drumming is good for the brain. Drumming and the ability to synchronize to a beat builds the brain's capacity for focused attention, impulse control, self-regulation and other essential higher brain skills.

## Introduction

Interestingly, most (if not all) human societies have societal practices such as drumming, singing or dancing to a beat.

In indigenous society, drums are sacred, representing the heartbeat of people, animals and Mother Earth herself.

Many of us may still be able to remember how we sang, dance or clapped in preschool or kindergarten.

Modern understanding of neuroscience is now confirming what many people intuitively know. That there are brain benefits from many of these traditional activities.

Singing, dancing and clapping in synchrony with others is not simply fun. Such rhythmic movement activities in preschool can support the neurologic basis of self-regulation.

Unfortunately, as kids grow older, many stop doing these types of brain-building activities.

## What Does the Brain Science Show?

Growing research shows that drumming interventions may have therapeutic benefits for various brain conditions such as Alzheimer's (Keough, 2017), PTSD (Bensimon, 2005; Lithke, 2019), and autism (Willemin, 2018; Cahart, 2022).

Studies show that people who drum have improved impulse control (Slater, 2017).

For students with ADHD, drumming has been proposed as a type of music intervention in the classroom (Frantz, 2020). Studies have shown that people with ADHD do have more difficulties sustaining a rhythm with others because they have a rhythm cut-off that is faster than those without ADHD (Gilden, 2009). Treatments such as interactive metronome (IM) are theorized to help ADHD by improving this sense of timing (Shaffer, 2001).

For teenagers with autism, a recent study shows that drumming may help improve socialization skills, inhibition control and focus (Cahart, 2022). Half of 36 people with ASD received a drumming intervention of 8 weeks of drumming lessons, twice per week, whereas the control group did not. In the drumming group, there were

improvements in ADHD symptoms, social skills and self-regulation. Brain changes were confirmed on fMRI scan, showing improved connectivity in areas responsible for inhibitory control, action outcomes monitoring and self-regulation.

Drumming has the potential to benefit anyone wanting to improve their attention skills, impulse control and self-regulation.

## How Does Drumming Help the Brain?

Drumming requires beat synchronization, the ability to tap or move to a beat. This requires various skills such as

- Attention skills (i.e. listening to the beat)
- Motor skills and hand-eye coordination (i.e. moving to the beat).
- Sense of timing;
- Ability to monitor and correct mistakes.

Drumming with another person requires listening to another and responding to another person (i.e. requiring a sense of empathy).

All of the above foundational lower-level skills are important for higher-level skills such as self-regulation, social skills and well-being (Cahart, 2022).

## Frequently Asked Questions (FAQ)

Q. My loved one doesn’t have the coordination to hold drum sticks.
A. The drumming instruction will adapt the drumming to your child’s skill level. For example, one could start with drums played by the hands, which is less complicated than holding drum sticks.

Q. I like quiet, and I’m afraid it would get too loud in our home with drums.
A. If you decide to get drums for home, there are many quiet options, such as getting a simple drum pad (a rubber pad) or electronic drums (where you wear headphones). And you can encourage drumming outside, which will provide nature benefit as well.

Q. My loved one is sensitive to noise.
A. The drumming instructor can find a quieter type of drum to start with. And because your child will have a sense of control by being the one making the sounds, they will be better able to tolerate the sound.

## Where to Find Drumming?

Do a search for “therapeutic drumming” in your area, and/or

Look for drumming instructors in your area.

- To duplicate what was done in Cahart's clinical trials, aim for two drumming lessons per week, at least 45-min. In length.

## Therapy Based on Similar Principles

It is interesting to note that there are other types of therapeutic interventions and treatments offered by professionals that appear to harness similar principles of timing and beat synchrony.

**Interactive Metronome (IM)**

Interactive metronome is a type of therapy where with the help of computer equipment, a person (with the help of a therapist) learns to improve their beat synchrony, their ability to clap to a beat. Improving this foundational skill thus helps later skills such as attention, focus, impulse control, and motor/sensory skills.

## Practices Incorporating Similar Principles

Other activities which practice sequenced movements include those found in dancing, such as highland dancing and tap dancing. However, these require a high level of coordination, which thus makes them difficult for most people.

## References

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