

How can percussion and learning percussion instruments be a good introduction to music and community for people with atypical brain connectivity?

Percussion, Neurodiversity, and Community: What Research Suggests

Percussion and drumming are simple, highly physical ways into music that do not require reading notation or fine motor skills. Across ages and diagnoses, research links rhythm-based percussion activities with gains in attention, self-regulation, social connection, and confidence, making them a promising “front door” to music and community for people with atypical brain connectivity.

Why Percussion Is an Accessible Musical Starting Point

- **Low entry barrier:** Simple hand drums, shakers, and body percussion allow participation without prior musical training or complex finger control (Kaur & Alias, 2021; Navarro & Naranjo, 2023; Woods, 2023; Choy, 2025).
- **Embodied, intuitive learning:** Body percussion and neuromotor methods (e.g., BAPNE) use imitation and progressive motor challenges, building rhythm skills through movement rather than abstract theory (Navarro & Naranjo, 2023; Macia & Naranjo, 2023).
- **Supports executive functions:** Dual-task rhythmic movement with percussion improves attention, planning, and frontal lobe function in older adults with mild cognitive impairment (Shimizu et al., 2018), and can strengthen executive skills more broadly (Navarro & Naranjo, 2023; Colverson et al., 2024).

Ways Percussion Supports the Brain

Domain	Reported benefit	Citations
Attention/self-reg.	Reduced hyperactivity, better attention, EF gains	(Cahart et al., 2022; Shimizu et al., 2018; De La Puente et al., 2026; Colverson et al., 2024)
Motor skills	Improved coordination, gait, bilateral movement	(Beh et al., 2024; Shimizu et al., 2018)
Social skills	More joint action, imitation, communication	(Ihara & Hand, 2025; Yoo & Kim, 2018; Kaur & Alias, 2021; Prisco et al., 2025)
Emotional wellbeing	Lower anxiety, more calm, enjoyment, confidence	(Ihara & Hand, 2025; Beh et al., 2024; Nweke et al., 2025; Woods, 2023; Varner, 2022)

FIGURE 1 Cognitive, motor, social, and emotional effects of percussion

Percussion, Neurodivergence, and Social Connection

- **Autism:** Drum training in autistic adolescents improved drumming performance, reduced hyperactivity/inattention, and increased connectivity in brain regions for inhibition and self-regulation (Cahart et al., 2022). Music interventions using rhythm and song improved social communication and auditory–motor connectivity (Sharda et al., 2018). Dyadic drum playing increased synchronization and joint engagement with a partner (Yoo & Kim, 2018).
- **Young autistic children:** Classroom percussion (nursery rhymes + small percussion) increased proactive musical engagement when supported by prompting and scaffolding (Kaur & Alias, 2021).
- **Other disabilities:** Group drumming in cerebral palsy fostered teamwork, motor coordination, confidence, and community connectedness (Beh et al., 2024). Arts projects including drumming for children with diverse disabilities improved emotional expression, peer interaction, and inclusion (Nweke et al., 2025).

Community and Identity Through Group Drumming

- **Group drumming as social glue:** Drum circles and classroom drumming build listening, turn-taking, leading/following, and feelings of belonging in schools and community programs (Beh et al., 2024; Van Vreden, 2023; Varner, 2022).
- **Safe, success-oriented space:** Children with emotional and behavioral goals reported enjoying “making music together,” feeling more introspective, connected, and able to express emotions in percussion groups (Woods, 2023).
- **Lifelong and cross-generational:** Drumming with older adults, including those with intellectual/developmental disabilities, supported mood, confidence, engagement, and social inclusion (Ihara & Hand, 2025; Olszewska et al., 2021; Wan & Schlaug, 2010).

Summary

Across autism, cognitive impairment, cerebral palsy, and broader disability, percussion-based activities appear accessible, motivating, and socially rich. They can strengthen attention and self-regulation, support motor coordination, and open low-pressure ways to connect with others. For people with atypical brain connectivity, learning percussion and joining drum groups can be a practical, enjoyable introduction to both musicality and community participation.

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