

Title: [The Brain on Music – An Approach to Study Autism](#)

Abstract:

Music has been identified as an area of strength for children with autism since its very first description but we know very little about how it affects their brain. Many research studies have demonstrated a positive impact of music on emotional engagement, social communication and parent-child relationships. In fact participating in musical experiences can help to develop social skills and bonding with other people, in all of us.

Recent brain imaging studies in neurotypical people have shown that partaking in musical activities engages a multimodal network of brain regions involved in hearing, movement, emotion, pleasure and memory, thus allowing transfer of music-related therapeutic effects to non-musical domains such as language and communication. Given its universal appeal, intrinsic reward value and ability to modify brain and behaviour, music may be a potential strength-based rehabilitation tool for people with autism. In this talk I will present research on how musical activities can impact brain and behaviour. I will also present evidence to show that a short term musical intervention can lead to measurable improvements in social communication, associated brain connectivity patterns as well as quality of life in school-age children with autism, providing neuroscientific support for the use of music-based therapies.

Bio

Dr. Megha Sharda is currently the Applied Behaviour Science Lead at a digital wellness startup called Atom. Dr. Sharda completed her post-doctoral research at the International Laboratory for Brain, Music and Sound (BRAMS), a world renowned centre for research on Music and the Brain in Montreal, in the lab of Dr. Krista Hyde at University of Montreal and Dr. Aparna Nadig at McGill University followed by her training with Dr. Isabelle Peretz. She completed her Ph.D. in Neuroscience at the National Brain Research Centre, India in 2014. Her research is interdisciplinary and combines neuropsychological and behavioural approaches with multimodal brain imaging to study the brain mechanisms underlying speech and sensorimotor processing in individuals with altered neurodevelopmental trajectories such as autism, congenital amusia and musical prodigies, with the potential for immediate translational impact. Dr. Sharda’s research has been funded by Fonds de la Recherche en Sante du Quebec, the Quebec Bioimaging Network, Autism Research Training Grant and the Grammy Foundation Grant. Her research has been published in leading journals such as *Lancet Child and adolescent Psychiatry*, *Nature Translational Psychiatry*, *Cerebral Cortex*, *Autism Research* and *Perception*. Her broad research interests include mental health, suicide prevention, LGBTQ mental health and autism.