

click



Critical Article Presentation



*Music improves social communication and
auditory-motor connectivity in children with
autism*

Sharda et al. (2018)

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EPSE 512 - Critical Issues in Special Education

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Instructions

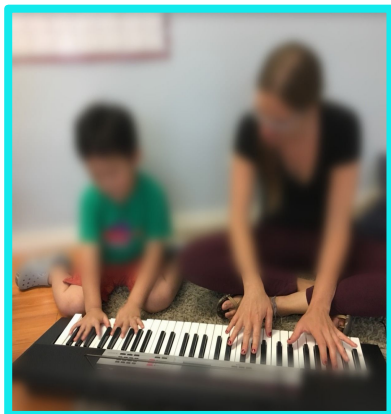
#1: Click on the  to listen to the audio

#2: Click on the  icon to listen to different melodies. How do they make you feel?

#3: Take a break, click on the  icon, and copy me!

#4: Want to test your memory? Try these exercises! 

#5: Children LOVE doing body percussion! It can be challenging though. Give it a try and click on the  icon at the end of the presentation to learn a cool rhythm!





music

[mju-zik] **noun**

the art of ordering tones or sounds that have rhythm, harmony and melody.

“Music can change the world because it can change people”

Music Therapy is a discipline in which Music Therapist Accredited (MTA) use music purposefully within therapeutic relationships to support development, well-being and health. Music therapists use music in an ethical way to address human needs within cognitive, communicative, emotional, musical, physical, and social domains (Canadian Association of Music Therapists, June 2016)

Where words fail, Music speaks...





Intervention Techniques

- ✓ Singing
- ✓ Playing
- ✓ Rhythmic play activities
- ✓ Improvising
- ✓ Composing/Song writing
- ✓ Listening





Case Study Design

Participants

- ✓ 51 school-age children with Autism Spectrum Disorder (ASD)



Method

- ✓ Interventions included a weekly 45-minute individual session for 8-12 weeks

Mixed-method data collection

- ✓ Randomized blinded assessors
- ✓ Video observation recordings of sessions
- ✓ Multiple measures for baseline characteristics and assessments
- ✓ Complex Magnetic Resonance Imaging (MRI) scanning
- ✓ Parent reports
- ☐ Checklists



Explanation of the research

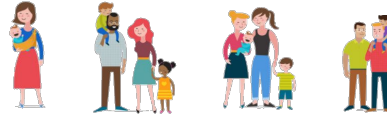
The study demonstrates that 8–12 weeks of music intervention (relative to non-music behavioural intervention) in school-age children with ASD, can improve:



Social communication



FQoL



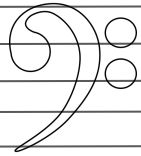
Intrinsic brain connectivity





Explanation of the Intervention

- ✓ *Using music as the central component*
- ✓ *Using improvisational approaches through song and rhythm to target social communication*
- ✓ *45-minute individual weekly sessions conducted over 8-12 weeks*
- ✓ *A child-centric approach*
- ✓ *Using musical instruments, songs and rhythmic cues, while targeting communication, turn-taking, sensorimotor integration, social appropriateness and musical interaction.*



Key Findings



- ✓ *Music interventions change brain activity in individuals diagnosed with ASD*
- ✓ *Music interventions with children diagnosed with ASD has the potential to be a strength-based rehabilitation and therapeutic tool*



Strengths



✓ The authors provided a clear objective

✓ Assessments were well rounded, making it possible for others to duplicate the study using similar procedures



✓ Using neuroimaging, demonstrating a clear difference between music interventions and non-music interventions



Limitations



✓ Exclusion criteria was not specific enough

✓ Having parents report outcomes in Family Quality of Life and Social communication without necessary training

✓ Level of severity of autism in participants was not reported



Further research needed to validate findings



Explore child's profiles



Use different measures of change



Include more direct observation-based outcomes



Explore different roles



Explore short and long term outcomes





Implications



Process

Process

Process

Process

Process

Process

Outcome!

- ✓ *Music is easy to incorporate cross-culturally, at home, school and global community settings.*
- ✓ *Incorporating music is inexpensive, easy-to-administer and relatively non-specialized strength-based intervention.*



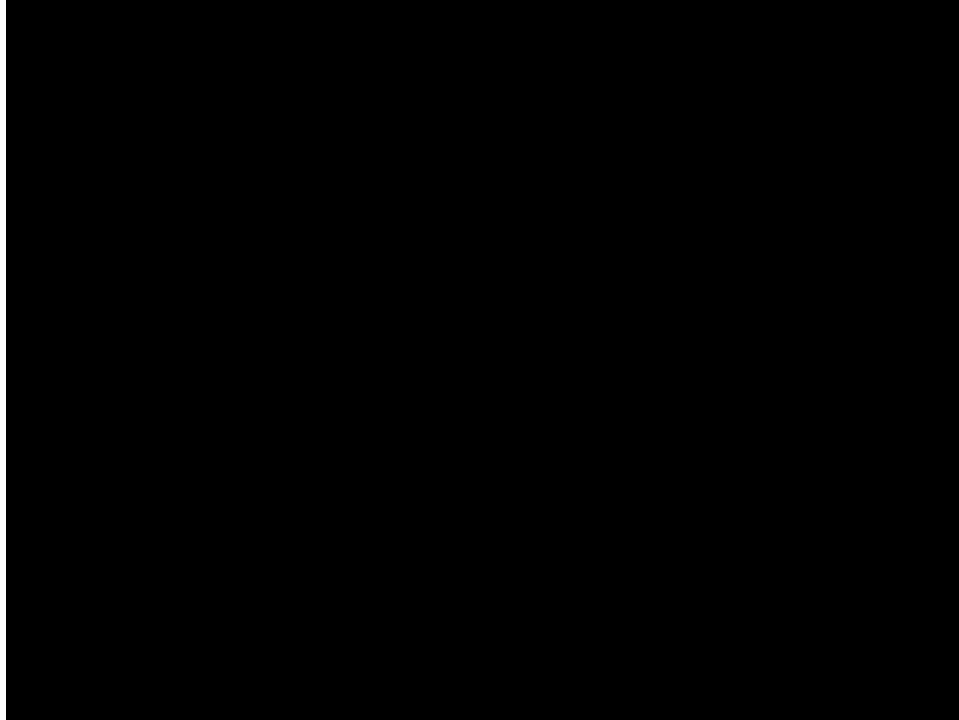


Practical examples and suggestions research-to-practice

- ✓ Using different sounds and types of music to explore how it affect children with ASD in different ways
- ✓ Using music to prompt activities
- ✓ Using music to create a schedule (e.g., “goodbye song”)
- ✓ Creating playlists for different purposes
- ✓ Creating music yourself, as a tool of self expression beyond words
- ✓ Sharing music with those around you, to promote communication & FQoL
- ✓ Using music to complete routine/task analyses
- ✓ Creating song or instruments choice boards



'Goodbye' song example



**Family provided consent to use this video*

Moving from research to practice

#1: What are the benefits of music?

#2: How can Special Education teachers integrate music in their classrooms?

#3: How can BIs integrate music in their ABA interventions?

#4: How can music programs be developed & extended to children with other special needs?

#5: Any recommendations for future research to further support music interventions?



Re-thinking Current Approaches

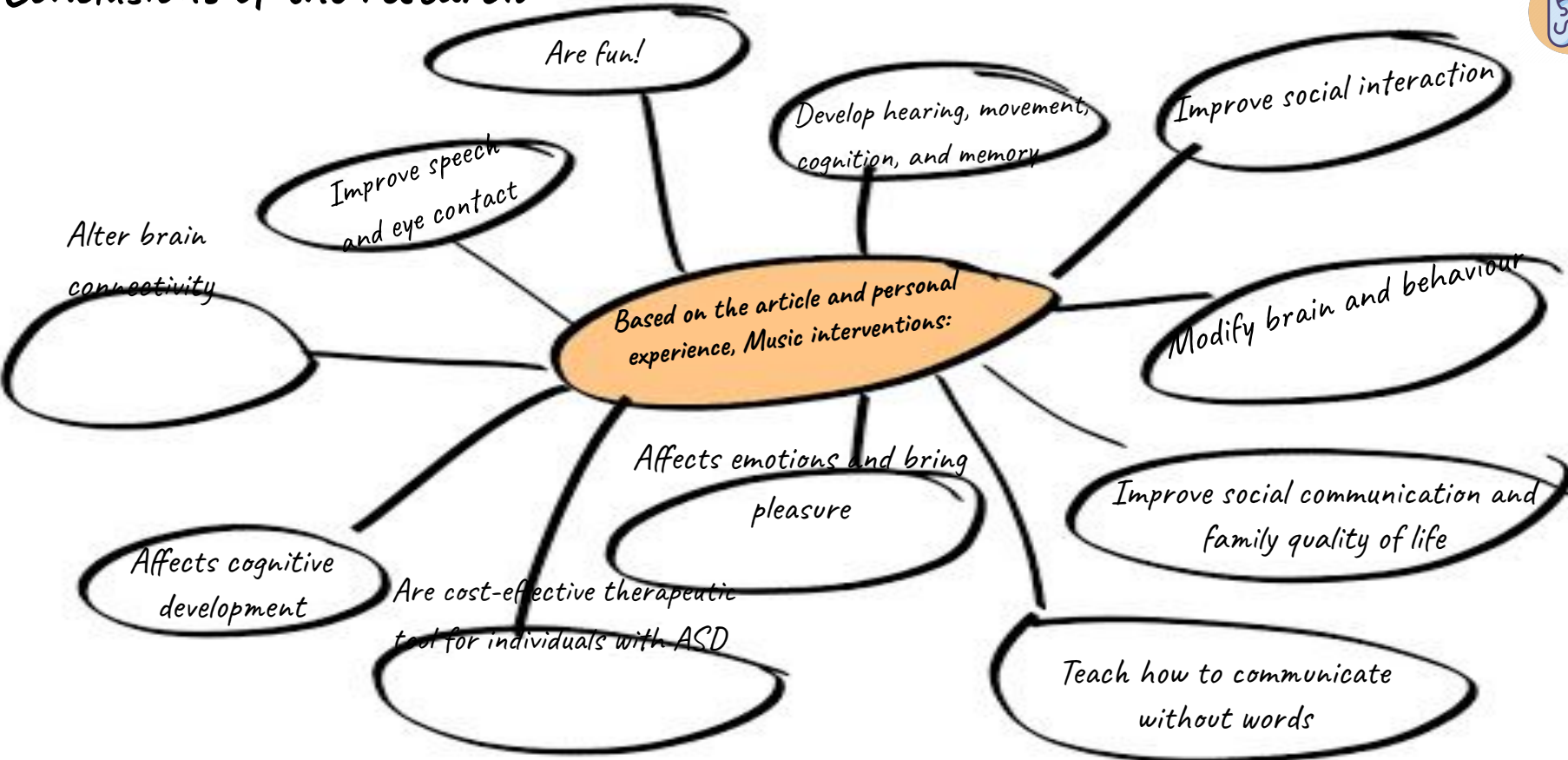




Suggestions from the authors

- Understanding the neural mechanisms underlying music-related changes in brain connectivity*
- Identifying individuals whose profiles may benefit most from music*
- Focus on quality of life and functional improvements*

Conclusions of the research



Body Percussion



Clap



Snap



Pat



Stomp



Create your own instruments

Music activities you can do with your clients

Listen and Sort



Follow instructions



4 Seasons



<https://www.youtube.com/watch?v=GRxofE mo3HA&t=1956s> - Vivaldi

<https://www.youtube.com/watch?v=lisj2kTZIFs>



Explore different sounds

Clap your hands or stomp your feet

Learn the ABC song

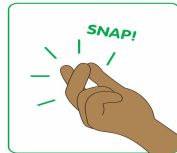


Dance and move based on the sound you hear (is it "light" like a bird or "heavy" like an elephant?)



Do this/Copy me

BODY PERCUSSION



| | | |
|----------|---------------|-------------|
| | | |
| PIE | ICE-CREAM | CAN-DY |
| | | |
| WAF-FLES | STRAW-BER-RY | LEM-ON-TART |
| | | |
| BA-NA-NA | WA-TER-MEL-ON | LOL-LI-POP |

References



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