Music for Children with Autism and Other Developmental Disabilities: 2009 Research, compiled by Beverly Seng, CMP

Most of this research involves "music therapy," so the protocols are outside our usual work as CMP's. However, I think it's important for us to know about this research for two reasons: (1) The research suggests ways in which we might collaborate with other therapists, providing live music for some of the therapies and interactions described below. (2) People see us as musical experts. We have the power to spread the word about how music helps to develop children's emotional, social, and even cognitive abilities.

Music fosters social interaction among children with autism and other disabilities.

Nine preschool children with developmental disabilities sustained their attention with peers for longer periods of time during play activities that incorporated musical elements, as compared to play activities without a musical component.[1] Also, the children also were better able to alternate attention from peer to peer during play. This finding is important because inability to interact with peers is a key feature of developmental delay. Perhaps the musical component alleviates anxiety, enabling the children to relate to their peers.

Similarly, a study of 56 parent-child duos found that the children (under age 2) who had attended music groups with their parents engaged in more social play than those who did not attend music groups.[2] The parents attending these sessions also exhibited more positive and fewer negative pay behaviors with their children, although this difference did not reach statistical significance.

Among children with autism, improvisational music therapy produced more and longer moments of joy, emotional synchronicity, and initiation of engagement behaviors than did play therapy. [3] Music therapy evoked **half as many refusals** to

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[1] **The effect of music on peer awareness in preschool age children with developmental disabilities. Sussman JE.**

J Music Ther. 2009 Spring;46(1):53-68.

[2] **Effects of developmental music groups for parents and premature or typical infants under two years on parental responsiveness and infant social development. Walworth DD.** J Music Ther. 2009 Spring;46(1):32-52.

[3] **Emotional, motivational and interpersonal responsiveness of children with autism in improvisational music therapy. Kim J, Wigram T, Gold C**. Autism. 2009 Jul;13(4):389-409

comply with the therapist's suggestions, as compared to play therapy. (In other words, music makes kids more cooperative!) Researchers concluded that music promotes the social, emotional, and motivational development of children with autism.

Music supports emotional understanding in children with autism.

A study of 12 Japanese children with autism (mean age 11.5) found that training in decoding emotions improved their understanding of the four emotions selected: happiness, sadness, anger and fear. By far the best understanding was gained by those who learned the emotions via verbal instruction along with background music that represented the designated emotion. [4] Researchers concluded that music is an effective tool to increase emotional understanding in children with autism, which is crucial to their social interactions.

In a study of adolescents with autism, researchers found that the adolescents could understand the emotional and social meaning of animations equally as well as normal adolescents could do, when the animations were accompanied by appropriate music. Without the music, the adolescents with autism were less likely to understand the social significance of the animations. [5]

Music therapy for children with autism was given a "grade A" by a review article looking at evidence supporting "novel and emerging" treatments for autism, which currently has only one FDA-approved treatment, the drug risperidone. [6]

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[4] **The effect of background music and song texts on the emotional understanding of children with autism.**

Katagiri J. J Music Ther. 2009 Spring;46(1):15-31.

[5] **The Effect of Music on Social Attribution in Adolescents with Autism Spectrum Disorders. Bhatara AK, Quintin EM, Heaton P, Fombonne E, Levitin DJ.**

Child Neuropsychology. 2009 Jan 13:1-22. [Epub ahead of print]

[6] **Novel and emerging treatments for autism spectrum disorders: a systematic review. Rossignol DA.** Ann Clin Psychiatry. 2009 Oct-Dec;21(4):213-36.

Persons with autism share the same musical preferences as healthy persons. Both groups preferred music to environmental sounds; both preferred consonant to dissonant music. [7] Thus, in playing for persons with autism, we need not be concerned that their musical preferences may differ from that of non-autistic individuals. A review article suggested that the social problems of persons with autism make music particularly important to them. [8]

Music supports skills needed for reading.

A study of more than 600 French children found that difficulties with rhythm in kindergarten were strongly correlated to difficulties with reading performance in the second grade. [9] This study reinforced the results of a study done in 1951 that found that children with dyslexia performed poorly compared to good readers in their ability to reproduce rhythm patterns. An Australian study in 2009 similarly

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[7] **Exploring musical taste in severely autistic subjects: preliminary data.**

Boso M, Comelli M, Vecchi T, Barale F, Politi P. Ann N Y Acad Sci. 2009 Jul;1169:332-5.

[8] **"With concord of sweet sounds...": new perspectives on the diversity of musical experience in autism and other neurodevelopmental conditions.**

Heaton P, Allen R.

Ann N Y Acad Sci. 2009 Jul;1169:318-25.

[9] **Rhythm reproduction in kindergarten, reading performance at second grade, and developmental dyslexia theories.**

Dellatolas G, Watier L, Le Normand MT, Lubart T, Chevrie-Muller C.

Arch Clin Neuropsychol. 2009 Sep;24(6):555-63. Epub 2009 Jul 22.

found that the "random automatized naming" skill, a component of reading fluency, relies on temporal processing skills such as the ability to tap to music.[10]

A German study found that musical training in children helped them to develop their ability to understand syntax (word order). Syntax processing in both music and language are developed earlier and more strongly in children with musical training. [11]

A case study of a five-year-old child with pervasive developmental disorder (similar to autism) found that 20 weeks' exposure to The Listening Program produced significant improvements in language, motor skills, and social skills.[12] Those who attended the MHTP retreat several years ago with Joshua Leeds may recall that he encouraged the use of this CD program.

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[10] **Motor timing and precursor literacy skills in very young children.**

Wigley C, Fletcher J, Davidson J. Ann N Y Acad Sci. 2009 Jul;1169:512-5.

[11] **Musical training modulates the development of syntax processing in children.**

Jentschke S, Koelsch S. Neuroimage. 2009 Aug 15;47(2):735-44. Epub 2009 May 7.

[12] **A case study of a five-year-old child with pervasive developmental disorder-not otherwise specified using sound-based interventions.**

Nwora AJ, Gee BM. Occup Ther Int. 2009;16(1):25-43.