

Sound Connections

LEYMN Evidence Review: How music making activity affects young children

Written by Becky Dixon

Edited by Nicky Dewar

March 2015



Introduction

This evidence review is whistle-stop hurtle through some of the literature and research in this area. It is aimed at practitioners and providers of early years music, giving quick access to some of the headline evidence that supports why the work we do is so important. We know that in day-to-day practice, practitioners gather large amounts of qualitative and observed evidence. However, for the specific purposes of this review, we're tackling less this rich area of anecdotal evidence, but focusing upon the quantitative data and specific studies that will help illuminate and explain our work to those who are not so experienced in being directly involved in early years music. This is not an academic study, and it is too short a document to be comprehensive but hopefully a useful reference and starting point for you when making funding bids, or when explaining to parents and service providers why the work we do really matters!

Generally, we consider the 'early years' to be between 0 and 5 years old, but some studies we've included have gone up to 7 year olds, so do be aware that some statistics do include data from slightly older children.

Background

The London Early Years Music Network (LEYMN) is part of Sound Connection's work to support the music education sector. By providing tools and information we hope to empower the workforce and advocate for more music making opportunities for young people.

LEYMN brings together organisations and individuals working in music with under-5s in London. We offer training, networking opportunities, information and resources alongside working to campaign for young children's rights to high quality music making.

Sections

- 1: Cognitive and physical development**
- 2: Language and communication**
- 3: Social and emotional skills and wellbeing**
- 4: Improvisation, musicality and playfulness**

1. Development: cognitive and physical – helping children develop their understanding of and interaction with the world

During the brain's early years, neural connections are made at a rapid rate. There is a lot of evidence to show how music activities at a young age engage senses, increases concentration skills and wires the brain for successful learning. Music can increase concentration and introduce a positive disposition to learn.

Children aged 4 who had a year of music training were found to be able to discriminate between a greater number and type of sounds, than those who hadn't. There was a link between musical perception and reading skills, as this influenced not only musical skills, but children's speech and reading ability.

SOURCE: Anvari, S. H., Trainor, L. J., Woodside, J., & Levy, B. A. (2002). 'Relations among musical skills, phonological processing, and early reading ability in preschool children.' *Journal of Experimental Child Psychology*, 83(2), 111-130.)

There is a significant, statistically observed, link between early music instruction and growth of ability in certain non-music abilities such as in abstract reasoning tests. This was observed in a study of 4-6 year olds using the structured early music curriculum Kindermusik.

SOURCE: Bilhartz, T. D., Bruhn, R. A. & Olson, J. E. (1999). 'The Effect of Early Music Training on Child Cognitive Development'. *Journal of Applied Developmental Psychology*, 20(4), 615-636. <<http://www.artsedsearch.org/summaries/the-effect-of-early-music-training-on-child-cognitive-development>>

Musicians who engaged in early music training (before the age of 7) performed better in motor-related skills, as opposed to those who learned later, when tested in later life

SOURCE: Wantanabe, Donald, 'The effect of early musical training on adult motor performance: evidence for a sensitive period in motor learning' *Exp Brain Res* (2007) 175: 332 – 340

There is strong evidence that active engagement with music has a 'strong and reliable' impact upon spatial reasoning skills. This was supported by a review of

15 studies, and the effects were likely to be stronger among children aged 3-5 years than older children.

SOURCE: *Hetland, L. (2000). Learning to make music enhances spatial reasoning, Journal of Aesthetic Education, 34(3/4), Special Issue, The Arts and Academic Achievement: What the evidence shows (Autumn – Winter, 2000), 179-238*

The 'Mozart Effect'

In 1993, the much hyped 'Mozart Effect' was said to prove that listening to music by Mozart actually made you smarter! This came from studies by Dr Irvine and his team, who published a paper claiming that listening to Mozart temporarily boosted the IQ of students who'd spent 10 minutes listening. Further studies cast doubt over this finding, but the idea was seized upon by the mainstream press as well as in the field of childhood development.

Does the music of Mozart really make children smarter? The debate rages on, but the evidence strongly supports that music in childhood does contribute towards cognitive development.

2. Language and communication

Listening and engaging in music is participation in a shared language, and can be a communication tool between infants and their caregivers from a very young age. Our understanding and development of this can enhance this communication. Music uses many of the same skills that are necessary for supporting language development, sharpening the brain's early encoding of codes. Engaging in early years music has been shown to have an impact on preschool children's language and reading ability.

Headlines, sources and evidence

Musical communication between mothers and infants is the foundation of all subsequent communications - speaking and moving in rhythmic musical ways is the essential foundation for all forms of communication, and engaging in this can enrich communication between caregivers and infants.

SOURCES :

Malloch, Stephen and Trevarthen, Colwyn, eds. **Communicative Musicality** (2009) This book is a comprehensive text exploring the evidence and theory behind communicative musicality

Dissanayake, Ellen 'The Earliest Narratives were Musical' *Research Studies in Music Education* June 2012 vol. 34 no. 1 pp 3-14

From a very young age, newborn infants are able to detect the beat in music – using rhythm can help develop a shared musical and rhythmic language between carers and infants.

SOURCE: István Winkler, Gábor P. Háden, Olivia Ladinig, István Sziller, and Henkjan Honing, **Newborn infants detect the beat in music** PNAS 2009 106 (7) 2468-2471; published ahead of print January 26, 2009
<<http://www.pnas.org/content/106/7/2468.full.pdf+html?sid=4698695c-b261-4d0a-bbdf-1c91f3990eb5>>

Music, particularly singing, can be part of the 'secure base' to help with secure attachment, softening unfamiliar situations and transitions, and can provide a comfortable predictability during the day

SOURCES:

Ainsworth, M. Bowlby, J. (1965) *Childcare and the Growth of Love*, London: Penguin.

Singing and rhythmic development can help promote speech development, and musical training helps with developing speech.

SOURCE: Goswami A.U. (2010) 'Language, music and children's brains: A rhythmic timing perspective on language and music as cognitive systems.' In P. Rebuschat et al. (Eds.) *Language and Music as Cognitive Systems*. Oxford: Oxford University Press.

Both joint and individual music making activities provide a rich context for language to flourish.

SOURCE: Barrett, Margaret S. 'Sounding lives in and through music: a narrative inquiry of the 'everyday' musical engagement of a young child' *Journal of Early Childhood Research*, June 2009 vol. 7 no 2 115-134 <<http://ecr.sagepub.com/content/7/2/115>>

3. Social and emotional skills – confidence/self-esteem/group skills and wellbeing

Engaging in participatory music making can increase confidence and communication in group and social situations. Experiencing musical rhythms with others has been shown to be important for social development and promoting social bonding, creating bonds between groups as well as between infants and their caregivers.

SOURCE: There is good summary of the evidence for this in Susan Hallam's review <<http://www.mec.org.uk/storage/power%20of%20music.pdf>>

Joint music making among children was found to increase positive and cooperative behaviour during activities held after a music centre.

Source: Kirschner, Sebastian et al. 'Joint music making promotes prosocial behavior in 4-year-old children', *Evolution and Human Behavior*, Volume 31, Issue 5, 354 – 364 <[http://www.ehonline.org/article/S1090-5138\(10\)00046-2/abstract](http://www.ehonline.org/article/S1090-5138(10)00046-2/abstract)>

After 6 months of active participatory music classes starting at 6 months, babies showed better early communication skills, like pointing at objects out of reach, or waving goodbye. They smiled more, were easier to soothe and showed less distress when things were unfamiliar or didn't go their way.

Source: 'Active music classes in infancy enhance musical, communicative and social development' Gerry, Unrau and Trainor (2012) (http://psycserv.mcmaster.ca/ljt/GerryUnrauTrainor_2012.pdf)

In child-led, creative music making between adults and children, turn-taking between children and adults can be seen, establishing a interactive mode of communication between teachers and children.

Source: Young, S (2008)

Communicative creativity in young children's spontaneous music-making, *International Journal of Experimental Research in Education* <https://www.academia.edu/Download>

Engagement with music increases the feeling of wellbeing in early years children

SOURCE: In a 2013 paper, Canterbury University, looking at Music for Change work with 150 children in 32 EY settings over 12 months, 88% of a sample were assessed as 'above average' on the Leuven wellbeing scale during music sessions (<https://www.canterbury.ac.uk/Research/Centres/SDHR/ResearchProjects/Change-Early-Years-Music-Project.aspx>)

4. Improvisation, composition, musicality and playfulness

Children ‘get’ music from infancy, and having an exposure and engagement with music is itself a creative outlet for infants, and can prepare children for a life of creativity, enjoyment and cultural engagement in music.

Active musical participation as a child influences their later understanding of the music of their culture

Babies who participated in interactive music classes showed earlier sensitivity to pitch structure in music

SOURCE: Gerry, D., Unrau, A. and Trainor, L. J. (2012), Active music classes in infancy enhance musical, communicative and social development. *Developmental Science*, 15: 398–407. <<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-7687.2012.01142.x/abstract>>

Infants react and move to music from a very early age - when music, rhythms (drumbeats) and speech was played to infants, they moved more to music than to speech and the tempo of music affected tempo of movement

SOURCE: Zentner, Marcel, and Tuomas Eerola. “Rhythmic Engagement with Music in Infancy.” *Proceedings of the National Academy of Sciences of the United States of America* 107.13 (2010): 5768–5773. PMC. Web. 25 Feb. 2015. <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2851927/>>

Cultural learning for young people improves a learning climate which imagination can flourish.

Source: ‘ImagiNation: The Case for Cultural Learning’ – Cultural Learning Alliance
<http://www.culturallearningalliance.org.uk/userfiles/files/FINAL_ImagineNation_The_Case_for_Cultural_Learning.pdf>

FURTHER READING:

Youth Music 2010 Evidence Review (Douglas Lonie, August 2010):

http://network.youthmusic.org.uk/sites/default/files/research/Early_years_evidence_review_2010.pdf

A review of 17 published articles relating specifically to outcomes of music making and musical exposure for early years.

‘The Power of Music’ Susan Hallam (2015)

<http://www.mec.org.uk/storage/power%20of%20music.pdf>

Not early years specific, but a very comprehensive and persuasive research synthesis of the evidence of the impact of actively making music on the intellectual, social and personal development of children and young people.

Soundwaves Case Study of Early Years Evidence, Nell Farrady

<http://network.youthmusic.org.uk/sites/default/files/Nell%20Farrally%20-%20Soundwaves%20Case%20Study.pdf>

The work of LEYMN and Sound Connections is funded by the National Foundation for Youth Music