

Western tonal knowledge in 3- and 4-year-old children: A pilot study

Nina Politimou

Department of Psychology, Middlesex University London, United Kingdom
a.politimou@mdx.ac.uk - https://www.researchgate.net/profile/Nina_Politimou

Fabia Franco

Department of Psychology, Middlesex University London, United Kingdom
f.franco@mdx.ac.uk - <http://www.mdx.ac.uk/about-us/our-people/staff-directory/franco-fabia>

In: Jakubowski, K., Farrugia, N., Floridou, G.A., & Gagen, J. (Eds.)
Proceedings of the 7th International Conference of Students of Systematic Musicology (SysMus14)
London, UK, 18-20 September 2014, <http://www.musicmindbrain.com/#!sysmus-2014/cfmp>

Implicit knowledge of the rules governing music structure in any given culture is acquired through exposure to a particular music system and seems to follow a developmental trajectory from infancy to early adolescence. The course of acquisition of this knowledge in preschool children has been understudied and existing findings are somewhat inconsistent, largely depending on the use of either explicit or implicit tasks. Even though 2.5 to 5-year-old children have been shown to possess knowledge of harmonic rules when tested with implicit measures such as electroencephalography (EEG; Corrigan & Trainor, 2013; Jentschke, Friederici, & Koelsch, 2014) and a harmonic priming paradigm (Marin, 2009) they did not seem to perform above chance level in an explicit task which requested them to make judgments about the "goodness" of melodies (Corrigan & Trainor, 2013). In this study we presented 4-year-old children with simple and engaging explicit tasks. We compared their performance to that of 3-year old children, an age group which has not yet been consistently tested with respect to their understanding of Western tonal structure. Pilot results showed that 4-year-olds (but not 3-year-olds) performed above chance level in one of the tasks, suggesting that their knowledge of Western tonal structure can be expressed through explicit judgments if suitable measures are used. A more sensitive implicit task is also being developed (harmonic priming paradigm; Schellenberg, Bigand, Poulin-Charronnat, Garnier, & Stevens, 2005) to be administered to the same age groups. This investigation sheds light on the developmental acquisition of Western tonal knowledge and discusses methodological considerations in the assessment of preschool children.

Keywords: Western music structure, music processing, preschool children

References

- Corrigan, K. a, & Trainor, L. J. (2013). Enculturation to musical pitch structure in young children: evidence from behavioral and electrophysiological methods. *Developmental Science*, 1-17. doi:10.1111/desc.12100
- Jentschke, S., Friederici, A. D., & Koelsch, S. (2014). Neural correlates of music-syntactic processing in two-year old children. *Developmental Cognitive Neuroscience*, 9, 200-8. doi:10.1016/j.dcn.2014.04.005
- Marin, M. M. (2009). Effects of early musical training on musical and linguistic syntactic abilities. *Annals of the New York Academy of Sciences*, 1169, 187-190. doi:10.1111/j.1749-6632.2009.04777.x
- Schellenberg, E. G., Bigand, E., Poulin-Charronnat, B., Garnier, C., & Stevens, C. (2005). Children's implicit knowledge of harmony in Western music. *Developmental Science*, 8(6), 551-66. doi:10.1111/j.1467-7687.2005.00447.x