

Does music training enhance intelligence and learning to read?

Kerry Hempenstall

Statement of the problem

Learning to read written English is difficult for many children. There have been numerous attempts to find innovative means to improve this situation.

Proposed solution/intervention

Many people, including children, find listening to music pleasurable. If it could be shown that learning music, an intellectual skill, transfers to intelligence and/or reading development, then music education may become an attractive curriculum option in school settings, and for parents seeking to enhance their children's development. It would have even more appeal if it could promote reading achievement among young readers struggling with literacy.

The theoretical rationale

Learning and playing music is an intellectually demanding activity, and some research has suggested other language and cognitive abilities may be enhanced. It is accepted that repeatedly engaging in any intellectual activity will evoke detectable brain changes. Some of these brain changes may be helpful to reading and intellectual development. For example, increased phonological awareness skills have been associated with music training, as have a variety of auditory skills, such as improved sense of pitch and rhythm. Given the association between phonological awareness and reading, a causal link is feasible, though perhaps restricted to beginning readers. Further, some suggest that training has an even broader impact, including on general cognitive functioning. Of course, there are numerous types and durations of musical instruction and it is unclear whether they would all have a similar effect. Additionally, any effect would be presumably predicated on students' motivation to maintain the training input and level of practice required, over a significant period of time.

What does the research say? What is the evidence for its efficacy?

Numerous studies have found a correlation between

the two pursuits, but it has yet to be shown that music training can actually cause reading or IQ improvement. The explanation for the association may be simply that brighter individuals are more likely to engage in music programs, and there is evidence that this is so. Unfortunately, many of these supportive studies are not well designed, and research reviews have found an inverse relationship between the reported effect sizes of the music training on reading skills and the methodological quality of the study design. So, high quality research reports little or no evidence for the transfer effect. To date, there have been too few randomised control trials (RCTs) to clarify if, and under what conditions, music training might cause reading skill or IQ enhancement. More recent reviews and meta-analyses have found little or no far transfer. As to reading effects, future studies of a high enough quality may show some benefits from some music training programs for some students. However, for students whose reading is at risk, time is too valuable to use on programs lacking evidence of any powerful effects.

Conclusion

Music-training programs have numerous cultural benefits for participants. However, if the purpose for their introduction is to have a direct and significant impact on academic outcomes, music training is not recommended based on current evidence.

Key references

Dumont, E., Syurina, E.V., Feron F.J.M., & van Hooren, S. (2017). Music interventions and child development: A critical review and further directions. *Frontiers in Psychology*, 8, 694

Gordon, R.L., Fehd, H.M., & McCandliss, B.D. (2015). Does music training enhance literacy skills? A meta-analysis. *Frontiers of Psychology*, 6, 1777. <https://doi.org/10.3389/fpsyg.2015.01777>

Sala, G., & Gobet, F. (2017). When the music's over. Does music skill transfer to children's and young adolescents' cognitive and academic skills? A meta-analysis. *Educational Research Review*, 20, 55-67.

Further references: <https://tinyurl.com/ycf3x9aa>

Nomanis Notes