Medical Xpress

Research shows that time invested in practicing pays off for young musicians

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A Harvard-based study published October 29 in the online, open-access journal *PLoS ONE*, led by Drs. Gottfried Schlaug and Ellen Winner has found that children who study a musical instrument for at least three years outperform children with no instrumental training—not only in tests of auditory discrimination and finger dexterity (skills honed by the study of a musical instrument), but also on tests measuring verbal ability and visual pattern completion (skills not normally associated with music).

41 eight- to eleven-year-olds who had studied either piano or a string instrument for a minimum of three years were compared to 18 children who had no instrumental training. Children in both groups spent 30-40 minutes per week in general music classes at school, but those in the instrumental group also received private lessons learning an instrument (averaging 45 minutes per week) and spent additional time practicing at home.

While it is no surprise that the young musicians scored significantly higher than those in the control group on two skills closely related to their music training (auditory discrimination and finger dexterity), the more surprising result was that they also scored higher in two skills that appear unrelated to music—verbal ability (as measured by a vocabulary IQ test) and visual pattern completion (as measured by the Raven's Progressive Matrices). And furthermore, the longer and more intensely the child had studied his or her instrument, the better he or she scored on these tests.

Studying an instrument thus seems to bring benefits in areas beyond those that are specifically targeted by music instruction, but that is not the end of the story. Although this research sheds light on the question of whether connections between music and other, unrelated skills do exist, more studies examining the causal relationships between instrumental music training, practice intensity, and cognitive enhancements are needed.

Citation: Forgeard M, Winner E, Norton A, Schlaug G (2008) Practicing a Musical Instrument in Childhood is Associated with Enhanced Verbal Ability and Nonverbal Reasoning. PLoS ONE 3(10): e3566. doi:10.1371/journal.pone.0003566
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