

The Power of Music: Musical Practice & Brain Development

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Research shows that music students:

- Do better in reading and math than non-music students
- Overcome learning disabilities easier
- Are better behaved, learn better to work with others
- Go to college in much higher numbers than non-musicians
- Are more successful in their future careers

Those students who take weekly music lessons, perform with a band, orchestra, or choir, and practice individually 25 minutes or more every day will:

- Enjoy faster and better organized brain development
 - Develop better Right/Left hand coordination and raise Spatial IQ
 - Develop higher Cognitive IQ as a result of multi-sensory stimulation
- Learn organizational, interpersonal, and mechanical skills that will last a lifetime

Notes on brain development and overcoming learning difficulties with musical training:

Because **allergies** of all kinds have increased in the general population, more than 35% of all school children will have suffered from **middle ear infections** or chronic otitis media with effusion (OME) during the early formative of their lives. About 80% of these cases will be of the “silent” OME type, presenting no outward symptoms, such as fever or pain. Therefore, most will go undetected and untreated. Without timely treatment chronic OME cause **developmental delays**. These delays may appear in the form of speech-language delay, reading difficulties (developmental dyslexia), under-development of auditory attending and squelching skills (often mistaken for ADD), spatial skills challenges, Aspergers and mild cognitive deficiencies that can affect reading, math, and social development.

The human brain consists of two hemispheres or cortices. The **right hemisphere** is used for spatial, emotional, artistic, and holistic skills; the **left hemisphere** is used for logic, deduction, mathematics, and abstract skills. The **only** direct neurological connection between these two areas of the brain is a small band of tissue about the size of a pencil, called the **Corpus Collosum** (CC). All information between these hemispheres travel via the CC. The size and development of features of the CC during early brain development determine gender specificity and brain specialization. Its later development determines degree of intelligence. This can be a lifelong process and not fixed to one’s youth.

At birth, the CC is about 30% smaller on average in males than in females. This difference appears to be help **brain specialization** in males. Hence, boys generally gain greater spatial skills, fast reaction times and gross total body movements (right hemisphere) and earlier ability in deduction, logic, and abstract reasoning (left hemisphere). Girls, by enjoying nearly equal development for both hemispheres (due to the larger dendritic mass of the CC) are generally able to master language, communication, and fine motor skills earlier and easier than boys (hence, the phenomena of “women’s intuition”).

However, the CC must continue to develop at a specified rate for both sexes for normal development to occur. Those children who suffer from OME during their first three years of life or more will also suffer development of the CC and other developmental areas. If they are boys, they may fall behind by as much as 2 years in reading ability (**dyslexia**), be misdiagnosed with **Attention Deficit Disorder** (ADD or ADHD), or may suffer a number of other **learning disabilities**. In time, however, they usually “catch up” with their peers, but sometimes after they’ve already developed behavioral problems in an effort to cover their cognitive deficiencies in the classroom.

To ward off the possibility that this should happen—and because too often these cases are not discovered until after the fact—it is absolutely crucial that music programs be reinstated in the schools. In fact, the long-standing decline in math and science performance of U.S. school children precisely measures the abolition of music programs from the years 1970 to today. Vast research is conclusive that reinstatement of music as core curriculum in the schools for grades K-8 will go far in raising cognitive performance of all school children, while especially helping those who have fallen behind for various reasons (such as untreated OME during ages 0-3).

Schools that already have music as core curriculum, whether located in an affluent community or the poorest ghetto, enjoy being the top performers in their districts. Developing musical skills has been found as much or more effective than any and all other forms of therapy. In fact, contrary to popular thought, without musical skills development, other forms of therapy generally show poor results. Nothing approaches the effectiveness taking up a musical instrument, joining a choral group, band, or orchestra, and **practicing individually a minimum of 25 minutes a day**. By so doing, these children will have a better chance at achieving their true potential. Furthermore, they will enjoy greater personal success and happiness in life. For more information: www.drmaxchartrand.org or call 520-509-6380.