



Category	Age Group	Content	Fact or Quote	Source
Educational	Toddler	Research reveals strong connections between rhythm skills and pre-reading abilities in toddlers.	Fact	Woodruff Carr K, W.-S.T., Tierney A, Strait D, Kraus N. , Beat synchronization and speech encoding in preschoolers: A neural synchrony framework for language development. , in Association for Research in Otolaryngology Symposium. 2014: San Diego, CA.
Cognitive	Toddler	Music enhances fine motor skills, or the ability to use small, acute muscle movements to write, use a computer, and perform other physical tasks.	Fact	Forgeard, 2008; Hyde, 2009; Schlaug et al. 2005, "The Effects of Musical Training on Structural Brain Development A Longitudinal Study," The Neurosciences and Music III: Disorders and Plasticity: Ann. N.Y. Acad. Sci. 1169: 182–186 (2009).
Educational	Toddler	Music education enhances fine motor skills.	Fact	Arts Education Partnership, 2011

Cognitive	Toddler	Research reveals strong connections between rhythm skills and pre-reading abilities in toddlers.	Fact	Woodruff Carr K, W.-S.T., Tierney A, Strait D, Kraus N. , Beat synchronization and speech encoding in preschoolers: A neural synchrony framework for language development. , in Association for Research in Otolaryngology Symposium. 2014: San Diego, CA.
Cognitive	Toddler	Infants recognize the melody of a song long before they understand the words. They often try to mimic sounds and start moving to the music as soon as they are physically able.	Fact	© 2015 Program for Early Parent Support (PEPS), a 501(C)(3) nonprofit organization
Cognitive	Toddler	Toddlers love to dance and move to music. The key to toddler music is the repetition of songs which encourages the use of words and memorization. Silly songs make them laugh. Try singing a familiar song and inserting a silly word in the place of the correct word, like “Mary had a little spider” instead of lamb. Let them reproduce rhythms by clapping or tapping objects.	Fact	© 2015 Program for Early Parent Support (PEPS), a 501(C)(3) nonprofit organization

Cognitive	Teen	Students who take music in middle school score significantly higher on algebra assignments in 9th grade than their non-music counterparts.	Fact	Helmrich. B. H. (2010). Window of opportunity? Adolescence, music, and algebra. Journal of Adolescent Research. 25 (4). - See more at: http://www.artsedsearch.org/summaries/window-of-opportunity-adolescence-music-and-algebra#sthash.BvS0RoHP.dpuf
Social	Teen	"Our school has created a culture that considers the music education part of our programming, as a real partner in the full development and academic achievement for our students."	Quote	Dinorah Marquez, Program Director, Latino Arts Strings Program
Educational	Teen	"[In the Latino Arts Strings Program] I had a wide range of ages to talk to, to play music with, to laugh with. Even though we were in a strict musical setting, they helped me find parts of myself that are not musical."	Quote	Fatima Gomez, BGCS/Latino Arts Strings Program Alumnus
Social	Teen	"Music is my life. It's a safe haven."	Quote	Student @ Skaneateles High School

Social	Teen	In the past, secondary students who participated in a music group at school reported the lowest lifetime and current use of all substances (tobacco, alcohol, and illicit drugs).	Fact	5 VH1: Save the Music. "The Benefits of Music Education." VH1: Save the Music. Accessed February 24, 2015. .
Educational	Teen	Schools with music programs have an estimated 90.2% graduation rate and 93.9% attendance rate compared to schools without music education, which average 72.9% graduation and 84.9% attendance.	Fact	The National Association for Music Education. "Music Makes the Grade." The National Association for Music Education. Accessed February 24, 2015.
Educational	Teen	U.S. Department of Education data on more than 25,000 secondary school students found that students who report consistent high levels of involvement in instrumental music over the middle and high school years show "significantly higher levels of mathematics proficiency by grade	Fact	U.S. Department of Education NELL88 Database

12."

Educational	Teen	Nearly 100% of past winners in the prestigious Siemens Westinghouse Competition in Math, Science and Technology (for high school students) play one or more musical instruments. This led the Siemens Foundation to host a recital at Carnegie Hall in 2004, featuring some of these young people, after which a panel of experts debated the nature of the apparent science/music link.	Fact	The Midland Chemist (American Chemical Society) Vol. 42, No.1, Feb. 2005
Educational	Teen	Music education improves average SAT scores.	Fact	Arts Education Partnership, 2011

Educational	Teen	Majorities of parents and teachers believe music education should be required in both middle and high schools.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Cognitive	Teen	It's also notable that both teachers (89 percent) and parents (82 percent) rate music education highly as a source for greater student creativity, a 21st century skill that's highly likely to help young people stand out in an increasing competitive global economy.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Cognitive	Teen	Adolescent-centered studies show that even very basic rhythm abilities, such as tapping to a beat, relate with reading skills, and we have provided initial evidence for how both abilities may rely on common underlying neural mechanisms of sound processing.	Fact	Tierney, A.T. and N. Kraus, The ability to tap to a beat relates to cognitive, linguistic, and perceptual skills. Brain and Language, 2013. 124(3): p. 225-231.

Social	Teen	Secondary students who participated in band or orchestra reported the lowest lifetime and current use of all substances (alcohol, tobacco, drug abuse).	Fact	Texas Commission on Drug and Alcohol Abuse Report. Reported in Houston Chronicle, January 1998
Educational	Teen	According to The Harmony Project's website, since 2008, 93 percent of Harmony Project seniors have gone on to college, despite a dropout rate of 50 percent or more in their neighborhoods.	Fact	© 2015 The Harmony Project
Cognitive	Teen	43 high-school students from impoverished neighborhoods in Chicago randomly assigned to band or choir lessons showed significant increases in their ability to process sounds, while those in a control group, who were enrolled in a junior ROTC program, didn't.	Fact	2013 study published in Frontiers in Educational Psychology reported in http://www.wsj.com/articles/a-musical-fix-for-american-schools-1412954652
Social	Teen	Teenagers may use musical experiences to form friendships, and to set themselves apart from parents and	Fact	© 2015 Program for Early Parent Support (PEPS), a 501(C)(3) nonprofit organization

		younger kids.		
Social	Teen	Teens music as their “social glue” and as a bridge for building acceptance and tolerance for people of different ages and cultural backgrounds.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on “The Impact of Music on the Lives of Children and Adolescents”).
Social	Teen	Teens look at music as an opportunity in school for engagement as performers, composers and intelligent listeners—activities and qualities that appear to be deeply meaningful to them.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on “The Impact of Music on the Lives of Children and Adolescents”).
Cognitive	Teen	Teens associate playing music with music literacy, listening skills, motor ability, eye-hand coordination and heightened intellectual capabilities.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on “The Impact of Music on the Lives of Children and Adolescents”).

Cognitive	Teen	Teens believe music helps adolescents release or control emotions and helps coping with difficult situations such as peer pressure, substance abuse, pressures of study and family, the dynamics of friendships and social life, and the pain of loss or abuse.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on “The Impact of Music on the Lives of Children and Adolescents”).
Social	Teen	Teens feel that playing music teaches self-discipline.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on “The Impact of Music on the Lives of Children and Adolescents”).
Social	Teen	Teens believe that playing music diminishes boundaries between people of different ethnic backgrounds, age groups and social interests.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on “The Impact of Music on the Lives of Children and Adolescents”).

Social	Teen	Teens indicate making music provides the freedom for teens to just be themselves; to be different; to be something they thought they could never be; to be comfortable and relaxed in school and elsewhere in their lives.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on "The Impact of Music on the Lives of Children and Adolescents").
Educational	Teen	Teens long for more variety and options for making music in school, including the expansion to instruments and technology used in popular music.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on "The Impact of Music on the Lives of Children and Adolescents").
Social	Teen	Teens are committed to their instruments and their school ensembles because they love to be involved in these musical and social groups; 20% of the respondents specified instruments as part of their musical identities, whether or not they were engaged in school music education.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on "The Impact of Music on the Lives of Children and Adolescents").

Social	Teen	Teens believe that music is an integral part of American life, and that music reflects American culture and society; there were 333 mentions of the skills that music education can provide access to, including the historical and cultural significance of music in civilizations and societies.	Fact	Patricia Shehan Campbell, Ph.D., of the University of Washington, "Adolescents' Expressed meanings of Music In and Out of School," reveals the meaning and importance of music participation in the lives of middle and high school adolescents, including those enrolled and not enrolled in school music programs. The research was based on responses by 1,155 teens who submitted student essays to Teen People magazine as part of an online contest inviting teens to speak out to help prevent the further elimination of music programs in schools across the country.
Educational	Teen	Teens described their music teachers as encouraging, motivating and acting as both role models and friends that can be trusted for listening and giving advice.	Fact	Presentation to U.S. Congress, 2007, Washington D.C. (Invited and arranged by the National Association of Music Merchants/NAMM, on "The Impact of Music on the Lives of Children and Adolescents").

Cognitive	Senior	<p>Playing an instrument as a kid leads to a sharper mind in old age, according to a new study conducted by Brenda Hanna-Pladdy, a clinical neuropsychologist in Emory's Department of neurology, and her colleagues. The researchers gave 70 people between the ages of 60 and 83 a battery of tests to measure memory and other cognitive abilities. The researchers found that those who had played an instrument for a decade or longer scored significantly higher on the tests than those with no musical background.</p>	Fact	<p>Quoted in Diane Cole, "Your Aging Brain Will Be in Better Shape If You've Taken Music Lessons," National Geographic, January 3, 2014.</p>
Cognitive	Senior	<p>Cognitive and neural benefits of musical experience continue throughout the lifespan, and counteract some of the negative effects of aging, such as memory and hearing difficulties in</p>	Fact	<p>Parbery-Clark A, A.S., Kraus N. , Musical Experience and Hearing Loss: Perceptual, Cognitive and Neural Benefits. in Association for Research in Otolaryngology Symposium. 2014: San Diego, CA.</p>

older adults.

Social	Senior	"We feel strongly that abundant health benefits can be achieved by older adults who learn to make music in a supportive, socially enjoyable setting. We are just beginning to understand the positive effects of making music on our bodies and our physical health."	Quote	Dr. Frederick Tims, principal investigator for the Music Making And Wellness Research Project and professor and chair of Music Therapy at Michigan State University
Cognitive	Senior	Involvement in participatory arts programs has been shown to have a positive effect on mental health, physical health, and social functioning in older adults, regardless of their ability. The arts also contribute to communicating, building sense of identity, preserving or	Fact	Arts in Aging report from the National Endowment for the Arts. Accessed on 8/21/2015 http://www.cms.msu.edu/docs/BenefitsMusic-Adult.pdf

restoring social capital, and strengthening social networks in communities.

Cognitive

Senior

Research shows that music activities (both music listening and music making) can influence older adults' perceptions about the quality of their lives. Some research has examined the effects of music listening on biological markers of health and subjective perceptions of wellbeing. Other studies on the psychological and social benefits associated with music making activities have demonstrated that participants often place considerable value on these "nonmusical" benefits of music activity.

Fact

Coffman, D. D. (2002). Music and quality of life in older adults. *Psychomusicology*, 18(1-2), 76-88

Cognitive	Senior	Music keeps your ears young. Older musicians don't experience typical aging in the part of the brain (the auditory cortex) that often leads to hearing troubles. It's never too late to start taking piano lessons and prevent these age-related changes.	Fact	(The Record.com – Michael Roizen, MD and Mehmet Oz, MD)
Health	Senior	Music has been found to stimulate parts of the brain, and studies have demonstrated that music enhances the memory of Alzheimer's and dementia patients, including a study conducted at UC Irvine, which showed that scores on memory tests of Alzheimer's patients improved when they listened to classical music.	Fact	Cheri Lucas, Education.com, "Boost Memory and Learning with Music," pbs.org.
Health	Senior	Adults age 60 to 85 without previous musical experience exhibited improved processing speed and memory after just three months of weekly 30-minute	Fact	Nina Kraus, Samira Anderson, "Music Training: An Antidote for Aging?" Hearing Journal, Vol. 66, No. 3, March 2013.

		piano lessons and three hours a week of practice, whereas the control group showed no changes in these abilities.		
Cognitive	Child	Everyday listening skills are stronger in musically-trained children than in those without music training. Significantly, listening skills are closely tied to the ability to: perceive speech in a noisy background, pay attention, and keep sounds in memory.	Fact	Strait, D.L. and N. Kraus, Biological impact of auditory expertise across the life span: musicians as a model of auditory learning. Hearing Research, 2013.
Social	Child	One of the biggest kicks is to see a child come into the music program as an introvert and leave as a student leader. That's a tremendous process.	Quote	Dick Zentner, 2013 Patrick John Hughes Parent/Booster Award Recipient
Cognitive	Child	Music training in childhood "fundamentally alters the nervous system such that neural changes persist in adulthood after auditory training has ceased."	Fact	Skoe, E. & N. Kraus. (2012). A little goes a long way: How the Adult Brain Is Shaped by Musical Training in Childhood. The Journal of Neuroscience, 32(34):11507–11510.

Cognitive	Child	Studies have shown that young children who take keyboard lessons have greater abstract reasoning abilities than their peers, and that these abilities improve over time with sustained training in music.	Fact	Rauscher, F.H. , & Zupan, M., "Classroom keyboard instruction improves kindergarten children's spatial-temporal performance: A field experiment" Early Childhood Research Quarterly, 15 , 215-228.2000.
Social	Child	"We have this holistic opportunity to teach children the benefits of direct participatory music education."	Quote	Linda Edelstein, Milwaukee youth symphony orchestra
Educational	Child	Children who study music tend to have larger vocabularies and more advanced reading skills than their peers who do not participate in music lessons.	Fact	Arete Music Academy. "Statistical benefits of music in education." Arete Music Academy. Accessed July 17, 2014. .
Cognitive	Child	Children with learning disabilities or dyslexia who tend to lose focus with more noise could benefit greatly from music lessons.	Fact	Arete Music Academy. "Statistical benefits of music in education." Arete Music Academy. Accessed July 17, 2014.
Social	Child	Children who study a musical instrument are more likely to excel in all of their studies, work better in teams, have	Fact	Arte Music Academy. "Statistical benefits of music in education." Statistical-Benefits-Of-Music-In-Education. Accessed July 17, 2014.

		enhanced critical thinking skills, stay in school, and pursue further education.		
Educational	Child	Regardless of socioeconomic status or school district, students (3rd graders) who participate in high-quality music programs score higher on reading and spelling tests.	Fact	Hille, Katrin, et al. "Associations between music education, intelligence, and spelling ability in elementary school." <i>Adv Cogn Psychol</i> 7 (2011): 1–6. Web. Accessed February 24, 2015.
Cognitive	Child	Young children who take music lessons show different brain development and improved memory over the course of a year, compared to children who do not receive musical training.	Fact	National Association for Music Education. "The Benefits of the Study of Music." National Association for Music Education. Accessed July 17, 2014. .
Educational	Child	Schools that have music programs have an attendance rate of 93.3% compared to 84.9% in schools without music programs.	Fact	The National Association for Music Education. "Music Makes the Grade." The National Association for Music Education. Accessed February 24, 2015.

Social	Child	<p>“At this time when you are making critical and far-reaching budget and program decisions...I write to bring to your attention the importance of the arts as a core academic subject and part of a complete education for all students. The Elementary and Secondary Education Act defines the arts as a core subject, and the arts play a significant role in children’s development and learning process. The arts can help students become tenacious, team-oriented problem solvers who are confident and able to think creatively.”</p>	Quote	Arne Duncan, Secretary of Education, Letter to Schools and Community Leaders, 2009.
Educational	Child	<p>Students in high-quality school music education programs score higher on standardized tests compared to students in schools with deficient music education programs, regardless of the socioeconomic</p>	Fact	Nature Neuroscience, April 2007

level of community.

Educational	Child	Students in all regions with lower-quality instrumental programs scored higher in English and mathematics than students who had no music at all.	Fact	Journal for Research in Music Education, June 2007; Dr. Christopher Johnson, Jenny Memmott
Educational	Child	Students at schools with excellent music programs had higher English test scores across the country than students in schools with low-quality music programs; this was also true when considering mathematics.	Fact	Journal for Research in Music Education, June 2007; Dr. Christopher Johnson, Jenny Memmott
Educational	Child	Students in top-quality instrumental programs scored 17% higher in mathematics than children in schools without a music program, and 33% higher in mathematics than students in a deficient choral program.	Fact	Journal for Research in Music Education, June 2007; Dr. Christopher Johnson, Jenny Memmott

Educational	Child	Students in top-quality instrumental programs scored 19% higher in English than students in schools without a music program, and 32% higher in English than students in a deficient choral program.	Fact	Journal for Research in Music Education, June 2007; Dr. Christopher Johnson, Jenny Memmott
Cognitive	Child	Young Children who take music lessons show different brain development and improved memory over the course of a year, compared to children who do not receive musical training.	Fact	Dr. Laurel Trainor, Prof. of Psychology, Neuroscience, and Behavior at McMaster University, 2006
Cognitive	Child	Musically trained children performed better in a memory test that is correlated with general intelligence skills such as literacy, verbal memory, visiospatial processing, mathematics, and IQ.	Fact	Dr. Laurel Trainor, Prof. of Psychology, Neuroscience, and Behavior at McMaster University, 2006
Cognitive	Child	Music education sharpens student attentiveness.	Fact	Arts Education Partnership, 2011
Cognitive	Child	Music education equips students to be creative.	Fact	Arts Education Partnership, 2011

Social	Child	Music education supports better study habits and self-esteem.	Fact	Arts Education Partnership, 2011
Educational	Child	Substantial majorities of both teachers and parents view student access to music and arts education as “extremely” or “very” important.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public’s Hopes and Beliefs for K–12 Music Education in the United States: 2015.
Educational	Child	Both parents and teachers have high standards and expectations for quality music programs, especially the importance of competent, certified teachers	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public’s Hopes and Beliefs for K–12 Music Education in the United States: 2015.
Educational	Child	On average, students have had only about three years of in-school music education, according to parents; more than a third have had one year or less, with one in six of all students having had no music instruction at all.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public’s Hopes and Beliefs for K–12 Music Education in the United States: 2015.

Social	Child	<p>Hispanic and African-American parents generally feel music provides more benefits to children than other parents do. Like their urban counterparts, however, they feel they're being shortchanged in a number of ways—though they're taking steps to overcome these deficits that could model solutions for other groups.</p>	Fact	<p>NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.</p>
Social	Child	<p>Majorities of both parents and teachers see a myriad of social-emotional, academic, 21st century skill, community, and physical and health benefits from music education—especially social-emotional benefits</p>	Fact	<p>NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.</p>

Social	Child	Majorities of both parents and teachers are aware of research on the effects of music on the developing brain, and have personally experienced the benefits of music education on their own children or students.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	Substantial majorities of both parents and teachers want to see the scope of elementary school music education expanded.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	Substantial majorities of teachers and parents believe budget cuts in music programs hurt students and that music is not as adequately funded as other core subjects. Most teachers and parents rate the funding for their own school's music program as average or worse.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

Educational	Child	Asked about 15 possible ways to cut school budgets, both teachers and parents are more willing to make cuts in 12 of the 14 other curricular, administrative and service areas than cut music and arts education. Only the number and salaries of teachers are more sacrosanct.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.
Educational	Child	More than 80 percent of teachers, and nearly as many parents, say that the time allotted to music education—adequate rehearsal time, class duration and class frequency— is important for a quality music education program.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.
Educational	Child	Eight in 10 teachers and more than seven in 10 parents believe the number of minutes of music education required every week is an important quality	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.

component.

Educational	Child	The number and quality of musical instruments, along with materials, are high on parents' lists of "must haves" for a quality program. But many teachers report that these essentials are in short supply.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	Fewer than half of teachers (42 percent) and parents (46 percent) say their schools have the musical instruments they need for all students who want to learn to play.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	Just 41 percent of teachers and 46 percent of parents say their schools have enough sheet music for every participating child.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

Educational	Child	Teachers in urban schools are more likely to consider music and arts education as core to the curriculum (38 percent) and value access to it (81 percent), compared to teachers in rural areas (30 percent of whom consider music and arts education as core to the curriculum and 70 percent of whom value access to it).	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	Urban teachers also believe more strongly that music education can build 21st century skills, such as communication, critical thinking, problem-solving and innovation skills.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

Educational	Child	African-American parents (76 percent) and Hispanic parents (75 percent) are significantly more likely than Caucasian parents (67 percent) to enroll their children in school music classes where opportunities exist, and they are more interested in their children participating in virtually every type of music class in or out of school.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	African-American and Hispanic parents generally believe more strongly in a wide array of potential benefits from music education, are more likely to have seen these positive impacts on their own child and more strongly support expanding music education programs. Ironically, these parents also are more likely to report that there are no music programs in their	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

schools (21 percent of African-American parents and 22 percent of Hispanic parents report this, compared to 15 percent of Caucasian parents).

Educational	Child	Students in the West are more likely to have school music programs that take place only outside of school hours—and they have access to fewer types of programs as well.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.
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Social	Child	Four of the top five benefits teachers see in the potential of music education to help students express themselves (cited by 92 percent of teachers), become more confident (90 percent), and develop better practice habits (89 percent) and more self-discipline (88 percent).	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	It's striking that both teachers (87 percent) and parents (79 percent) strongly believe music education has a positive impact on overall academic performance.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Social	Child	Majorities of parents whose children are involved in music classes also credit music education for making them happier, more focused, more selfdisciplined,	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

stronger academically
and
more helpful.

Educational	Child	More than eight in 10 teachers (83 percent) and more than seven in 10 parents (73 percent) say budget cuts in music education are detrimental to students.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	Child	On average, both teachers and parents would be more willing to cut spending in 12 of 15 other programs before they'd cut funding for music and arts education.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

Educational	Child	<p>Teachers in Title I schools are more likely to report that their schools have no music program at all. In Title I schools that do offer music programs, teacher responses suggest that they have fewer full-time music teachers—and teachers in these schools are more likely to report there are no professional development opportunities for the music teachers they do have.</p>	Fact	<p>NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.</p>
Educational	Child	<p>Federal education policy specifically authorizes the use Title I funds for music and arts education. But few teachers—even the majority who know what Title I is—are aware of this significant opportunity to provide or improve music programs in the country. Even fewer parents are familiar with Title I, let alone the fact that</p>	Fact	<p>NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.</p>

Title I funds can be used for music education

Social

Child

Parents who are highly involved in supporting their school's music and other programs (including substantial numbers of parents who do not have high incomes) have higher expectations for music programs in their schools—and they're significantly more likely to see these demands for quality met.

Fact

NAMM Foundation and Grunwald Associates LLC (2015).
Striking a Chord: The Public's Hopes and Beliefs for K–12 Music Education in the United States: 2015.

Cognitive	Child	Everyday listening skills are stronger in musically-trained children than in those without music training 4, 7. Significantly, listening skills are closely tied to the ability to: perceive speech in a noisy background, pay attention, and keep sounds in memory.	Fact	Strait, D.L. and N. Kraus, Biological impact of auditory expertise across the life span: musicians as a model of auditory learning. Hearing Research, 2013.
Cognitive	Child	According to research published in a 2014 article in Parents magazine, learning how to play percussion instruments helps children develop coordination and motor skills, because they require movement of the hands, arms, and feet.	Fact	Kwan, A. (2013), "6 Benefits of Music Lessons," Parents.
Social	Child	Taking music lessons offers a space where kids learn how to accept and give constructive criticism, according to research published in The Wall	Fact	Joanne Lipman, "A Musical Fix for American Schools," The Wall Street Journal, October 10, 2014.

Street
Journal in 2014.

Educational	Child	The College Board identifies the arts as one of the six basic academic subject areas students should study in order to succeed in college.	Fact	Academic Preparation for College: What Students Need to Know and Be Able to Do, 1983 [still in use], The College Board, New York
Cognitive	Child	Music and math are highly intertwined. By understanding beat, rhythm, and scales, children are learning how to divide, create fractions, and recognize patterns.	Fact	Lynn Kleiner, founder of Music Rhapsody in Redondo Beach, CA
Cognitive	Child	Certain instruments, such as percussion, help children develop coordination and motor skills; they require movement of the hands, arms, and feet.	Fact	Kristen Regester, Early Childhood Program Manager at Sherwood Community Music School at Columbia College Chicago. Copyright © 2013 Meredith Corporation.

Social	Child	Group classes require peer interaction and communication, which encourage teamwork, as children must collaborate to create a crescendo or an accelerando.	Fact	Kristen Regester, Early Childhood Program Manager at Sherwood Community Music School at Columbia College Chicago. Copyright © 2013 Meredith Corporation.
Social	Child	Playing an instrument teaches kids to persevere through hours, months, and sometimes years of practice before they reach specific goals, such as performing with a band or memorizing a solo piece.	Fact	Mary Larew, Suzuki violin teacher at the Neighborhood Music School in New Haven, Connecticut. Copyright © 2013 Meredith Corporation.
Social	Child	Lessons offer a forum where children can learn to accept and give constructive criticism. Turning negative feedback into positive change helps build self-confidence, Regester says. Group lessons, in particular, may help children understand that nobody, including themselves or their peers, is perfect,	Fact	Mary Larew, Suzuki violin teacher at the Neighborhood Music School in New Haven, Connecticut. Copyright © 2013 Meredith Corporation.

Cognitive	Child	In order to fully reap the cognitive benefits of a music class, kids can't just sit there and let the sound of music wash over them. They have to be actively engaged in the music and participate in the class.	Fact	Dr. Nina Kraus, director of Northwestern's Auditory Neuroscience Laboratory.
Cognitive	Child	Researchers found that after two years, children who not only regularly attended music classes, but also actively participated in the class, showed larger improvements in how the brain processes speech and reading scores than their less-involved peers.	Fact	Nina Kraus, director of Northwestern's Auditory Neuroscience Laboratory, quoted in Melissa Locker, "This Is How Music Can Change Your Brain," Time, December 16, 2014.
Educational	Child	"Early sustained music learning is actually the frame upon which education itself can be built for low-income kids."	Quote	MARGARET MARTIN, founder, Harmony Project, quoted in PBS NEWS HOUR. http://www.pbs.org/newshour/bb/education-jan-june14-harmony_01-04/

Cognitive	Child	<p>"In science I had very low grades and then once I started learning about music and being able to practice and concentrating, my science grades have gone higher and so have my other grade in other subjects. I would concentrate in my music and it was something to be focused on and not be bothered by anyone. I was using that on my homework and on any type of class work also. Science is now one of my best subjects."</p>	<p>Quote VIANEY CALIXTO, student and Harmony Project Participant quoted in PBS NEWS HOUR. http://www.pbs.org/newshour/bb/education-jan-june14-harmony_01-04/</p>
Cognitive	Child	<p>"While more affluent students do better in school than children from lower income backgrounds, we are finding that musical training can alter the nervous system to create a better learner and help offset this academic gap."</p>	<p>Quote Dr. Nina Kraus, director of Northwestern's Auditory Neuroscience Laboratory quoted in "Musical training 'can improve language and reading'" http://www.bbc.com/news/health-28703013</p>

Social	Child	Music is no cure-all, nor is it likely to turn your child into a Nobel Prize winner. But there is compelling evidence that it can boost children's academic performance and help fix some of our schools' most intractable problems.	Quote	Joanne Lipman, "A Musical Fix for American Schools," The Wall Street Journal, October 10, 2014.
Cognitive	Child	A Canadian study of 48 preschoolers and published in 2011, found that verbal IQ increased after only 20 days of music training. In fact, the increase was five times that of a control group of preschoolers, who were given visual art lessons, says lead researcher Sylvain Moreno, an assistant professor of psychology at the University of Toronto. He found that music training enhanced the children's "executive function"—that is, their brains' ability to plan, organize, strategize and solve problems. And he found the effect in 90%	Fact	Joanne Lipman, "A Musical Fix for American Schools," The Wall Street Journal, October 10, 2014.

of the children, an unusually high rate.

Cognitive

Child

In a 2009 study in the Journal of Neuroscience, researchers used an MRI to study the brains of 31 6-year-old children, before and after they took lessons on musical instrument for 15 months. They found that the music students' brains grew larger in the areas that control fine motor skills and hearing—and that students' abilities in both those areas also

Fact

Joanne Lipman, "A Musical Fix for American Schools," The Wall Street Journal, October 10, 2014.

improved. The corpus callosum, which connects the left and right sides of the brain, grew as well.

Cognitive	Child	Exposing children to music during early development helps them learn the sounds and meanings of words. Dancing to music helps children build motor skills while allowing them to practice self-expression. For children and adults, music helps strengthen memory skills.	Fact	© 2015 Program for Early Parent Support (PEPS), a 501(C)(3) nonprofit organization
Social	Child	Making music together, children learn to work as a team while they each contribute to the song in their own way. At the same time, music helps children learn that	Fact	© 2015 Program for Early Parent Support (PEPS), a 501(C)(3) nonprofit organization

together they can make something larger than the sum of its parts.

Social	Child	More benefits of music for children include learning cooperation, sharing, compromise, creativity, and concentration - skills that become invaluable as they enter school, face new challenges, and begin to form new friendships and develop social skills.	Fact	© 2015 Program for Early Parent Support (PEPS), a 501(C)(3) nonprofit organization
Cognitive	Child	A study at the University of California at Irvine demonstrated that young kids who participated in music instruction showed dramatic enhancements in abstract reasoning skills. In fact, researchers have found neural firing patterns that suggest that music may hold the key to higher brain function.	Fact	Rauscher, Shaw, Levine , Ky and Wright, "Music and Spatial Task Performance: A Causal Relationship," University of California , Irvine , 1994

Educational	Child	Research at McGill University in Montreal, Canada showed that grade-school kids who took music lessons scored higher on tests of general and spatial cognitive development, the abilities that form the basis for performance in math and engineering.	Fact	http://nisom.com/index.php/instruction/health-benefits
Social	Child	Kids who make music have been shown to get along better with classmates and have fewer discipline problems. More of them get into their preferred colleges, too.	Fact	http://nisom.com/index.php/instruction/health-benefits
Cognitive	Child	Playing a musical instrument strengthens eye-hand coordination and fine motor skills, and kids who study an instrument learn a lot about discipline, dedication and the rewards of hard work.	Fact	http://nisom.com/index.php/instruction/health-benefits
Educational	Child	A study of 8 to 11-year-olds found that, those who had extra-curricular music classes, developed higher	Fact	Forgeard et al., "Practicing a Musical Instrument in Childhood is Associated with Enhanced Verbal Ability and Nonverbal Reasoning," PLOS One, 2008.

verbal IQ, and visual abilities, in comparison to those with no musical training.

Educational	Child	A study of almost one thousand Finnish pupils who took part in extended music classes, found they reported higher satisfaction at school in almost every area, even those not related to the music classes themselves.	Fact	Eerola & Eerola, "Extended music education enhances the quality of school life," Music Education Research, 2013.
Cognitive	Child	Music training not only helps children develop fine motor skills, but aids emotional and behavioral maturation as well, according to a new study, one of the largest to investigate the effects of playing an instrument on brain development.	Fact	Amy Ellis Nutt, "Music lessons spur emotional and behavioral growth in children, new study says," The Washington Post, January 7, 2015.

Cognitive	Child	<p>"A kid with a music degree isn't limited to a performance or teaching career. Musicians are everywhere. We are project managers, marketers, Finance folks, IT people and engineers. In my twenty-some years as a corporate HR person, I was always impressed by the way musical people excelled at logic and non-linear thinking, both."</p>	<p>Quote Liz Ryan, "Let the kids study music, already!" Forbes, September 3, 2014.</p>
Educational	Child	<p>"Being able to think on your feet, approach tasks from different perspectives and think 'outside of the box' will distinguish your child from others. In an arts program, your child will be asked to recite a monologue in 6 different ways, create a painting that represents a memory, or compose a new rhythm to enhance a piece of music. If children have practice thinking creatively, it will come</p>	<p>Quote Lisa Phillips, "The artistic edge: 7 skills children need to succeed in an increasingly right brain world," ARTSblog, Americans for the Arts, 2013.</p>

naturally to them now
and in their future
career."

Cognitive

Child

"When a child picks up a violin for the first time, she/he knows that playing Bach right away is not an option; however, when that child practices, learns the skills and techniques and doesn't give up, that Bach concerto is that much closer. In an increasingly competitive world, where people are being asked to continually develop new skills, perseverance is essential to achieving success."

Quote

Lisa Phillips, "The artistic edge: 7 skills children need to succeed in an increasingly right brain world," ARTSblog, Americans for the Arts, 2013.

Cognitive	Child	<p>"The ability to focus is a key skill developed through ensemble work. Keeping a balance between listening and contributing involves a great deal of concentration and focus. It requires each participant to not only think about their role, but how their role contributes to the big picture of what is being created. Recent research has shown that participation in the arts improves children's abilities to concentrate and focus in other aspects of their lives."</p>	<p>Quote Lisa Phillips, "The artistic edge: 7 skills children need to succeed in an increasingly right brain world," ARTSblog, Americans for the Arts, 2013.</p>
Social	Child	<p>"When a child has a part to play in a music ensemble, or a theater or dance production, they begin to understand that their contribution is necessary for the success of the group. Through these experiences children gain confidence and start to learn that their contributions have value even if they don't</p>	<p>Quote Lisa Phillips, "The artistic edge: 7 skills children need to succeed in an increasingly right brain world," ARTSblog, Americans for the Arts, 2013.</p>

have the biggest role."

Educational	Child	"I believe arts education in music, theater, dance, and the visual arts is one of the most creative ways we have to find the gold that is buried just beneath the surface. They (children) have an enthusiasm for life a spark of creativity, and vivid imaginations that need training – training that prepares them to become confident young men and women."	Quote Richard W. Riley, Former US Secretary of Education
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Educational	Child	“Music education opens doors that help children pass from school into the world around them – a world of work, culture, intellectual activity, and human involvement. The future of our nation depends on providing our children with a complete education that includes music.”	Quote	Gerald Ford, Former President of the United States
Educational	Child	“Music is about communication, creativity, and cooperation, and by studying music in schools, students have the opportunity to build on these skills, enrich their lives, and experience the world from a new perspective.”	Quote	Bill Clinton, Former President of the United States
Educational	Child	A 2012 U.S. Department of Education report that compared surveys from 1999-2000 and 2009-2010 found that music was offered in 94 percent of elementary schools during both timeframes, and that	Fact	Jessica Siegel, "Amid Tests and Tight Budgets, Schools Find Room for Arts," CityLimits.Org, June 7, 2013.

visual art offerings dropped only slightly, from 87 percent of schools in 2000 to 82 in 2010.

Cognitive

Child

Music training leads to greater gains in auditory and motor function when begun in young childhood; by adolescence, the plasticity that characterizes childhood has begun to decline. Nevertheless, our results establish that music training impacts the auditory system even when it is begun in adolescence, suggesting that a modest amount of training begun later in life can affect neural function.

Fact

Adam T. Tierney, Jennifer Krizman, Nina Kraus, "Music training alters the course of adolescent auditory development," Proceedings of the National Academy of Sciences, 2015.

Social	Child	95 percent of Americans consider music to be part of a well-rounded education, and 93 percent feel that schools should offer music education as part of the regular curriculum. Nearly four in five (79 percent) even say that music education should be mandated for every student in school.	Fact	2003 Gallup Poll conducted for NAMM.
Educational	Child	"A broad education in the arts helps give children a better understanding of their world... We need students who are culturally literate as well as math and science literate."	Quote	Paul Ostergard, Vice President, Citicorp.
Educational	Child	"Arts education aids students in skills needed in the workplace: flexibility, the ability to solve problems and communicate, the ability to learn new skills, to be creative and innovative, and to strive for excellence."	Quote	Joseph M. Calahan, Director of Cooperative Communications, Xerox Corporation.

Educational	Child	<p>Learning a musical language could have cognitive benefits similar to those evident in bilingual children. Although this view has intuitive appeal because music and language are both auditory communication systems, the positive effects of bilingualism are evident for fluid intelligence (i.e., executive control) but not for crystallized intelligence (e.g., knowledge acquired through experience, such as vocabulary), whereas the effects of music lessons appear to extend to both domains.</p>	Fact	<p>E. Glenn Schellenberg, "Music and Cognitive Abilities," <i>Current Directions in Psychological Science Journal</i>, Vol. 14, No. 6, December 2005.</p>
Social	Child	<p>The hope of our music, the entire future of our music, unquestionably lies in our children.</p>	Quote	<p>Aubertine Woodward Moore, "Our Children, The Hope of Music: Building a Musical America," <i>The Art World</i>, Vol. 2, No. 6, pp. 512-514, September 1917.</p>

Health	Child	Research indicates the brain of a musician, even a young one, works differently than that of a nonmusician. "There's some good neuroscience research that children involved in music have larger growth of neural activity than people not in music training. When you're a musician and you're playing an instrument, you have to be using more of your brain."	Quote	Dr. Eric Rasmussen, chair of the Early Childhood Music Department at the Peabody Preparatory of The John Hopkins University, quoted in "The Benefits of Music Education," pbs.org, Laura Lewis Brown.
Educational	Child	Nine in ten adults believe students benefit from having music included in their curriculum (89 percent)...	Fact	"Public Schools are Improving Their Grades, but Private Schools Remain at the Head of the Class," Harris Poll, September 29, 2015.
Educational	Child	"I would teach children music, physics, and philosophy; but most importantly music, for the patterns in music and all the arts are the keys to learning."	Quote	Plato.

Cognitive	All	Musicians are found to have superior working memory compared to non-musicians.	Fact	Berti, et al., 2006; Pallesen et al., "Cognitive Control in Auditory Working Memory Is Enhanced in Musicians," PLOS One, June 15, 2010.
Social	All	"To you beautiful wonderful students, you lifted us all up this morning. That's what music does, it lifts you up."	Quote	Larry Morton, former NAMM Board Chairman & President of Hal Leonard Corporation
Social	All	"Music is a tool for social justice."	Quote	Dinorah Marquez, Program Director, Latino Arts Strings Program
Social	All	"Music became my voice and it became the bridge to a larger culture."	Quote	Dinorah Marquez, Program Director, Latino Arts Strings Program
Educational	All	Music programs are constantly in danger of being cut from shrinking school budgets even though they're proven to improve academics.	Fact	National Center for Education Statistics. "Arts Education in Public Elementary and Secondary Schools, 1999-2000 and 2009-2010." National Center for Education Statistics. Accessed February 24, 2015. .
Cognitive	All	A Stanford study shows that music engages areas of the brain which are involved with paying attention, making predictions and updating events in our memory.	Fact	Baker, Mitzi. "Music moves brain to pay attention, Stanford study finds." Stanford Medicine. Accessed February 24, 2015.

Cognitive	All	Much like expert technical skills, mastery in arts and humanities is closely correlated to a greater understanding of language components.	Fact	Trei, Lisa. "Musical training helps language processing, studies show." Stanford News. Accessed February 24, 2015.
Educational	All	Students in high-quality school music education programs score higher on standardized tests compared to students in schools with deficient music education programs, regardless of the socioeconomic level of community.	Fact	Nature Neuroscience, April 2007
Cognitive	All	Early childhood training in instrumental music improves the ability to pay attention--visual focus, active listening, and staying on task.	Fact	Neville, H., et al. (2008). Effects of Music Training on Brain and Cognitive Development in Under-privileged 3- to 5-year-old Children: Preliminary Results. In C. Asbury & B. Rich (Eds.), Learning, Arts, and the Brain: The Dana Consortium Report on Arts and Cognition (pp. 105-116). New York, NY: Dana Press.
Social	All	Perserverance is developed and strengthened through music education.	Fact	Scott, L. (1992). Attention and Perseverance Behaviors of Preschool Children Enrolled in Suzuki Violin Lessons and Other Activities. Journal of Research in Music Education, 40(3), 225-235.

Social	All	Music education helps develop originality and flexibility, which are key components of creativity and innovation.	Fact	Craft, A. (2001). An Analysis of Research and Literature on Creativity and Education. Report Prepared for the Qualifications and Curriculum Authority. Coventry, England. Strategic National Arts Alumni Project (SNAAP). (2010). Forks in the Road: The Many Paths of Arts Alumni: Strategic National Arts Alumni Project 2010 Findings. Bloomington, IN.
Educational	All	Music education prepares the brain for achievement.	Fact	Arts Education Partnership, 2011
Educational	All	Music education fosters superior working memory.	Fact	Arts Education Partnership, 2011
Educational	All	Music education cultivates better thinking skills.	Fact	Arts Education Partnership, 2011
Educational	All	Music education improves recall and retention of verbal information.	Fact	Arts Education Partnership, 2011
Educational	All	Music education advances math achievement.	Fact	Arts Education Partnership, 2011
Educational	All	Music education boosts reading and English language skills.	Fact	Arts Education Partnership, 2011
Social	All	Music education strengthens perseverance.	Fact	Arts Education Partnership, 2011

Educational	All	Fewer than half of school music programs have the musical instruments or even sheet music they need for all participating students, both teachers and parents say.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Educational	All	Parents and teachers in urban schools are clamoring for expansion of programs to match the access to and attributes of programs in suburban schools.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Social	All	Parents and teachers in Western states report that schools trail their counterparts in other regions on a number of measures; they feel more strongly than those in other regions that music should be a core subject. Parents and teachers in the West are the least satisfied about the status of their music programs.	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.

Cognitive	All	Musical experience strengthens many of the same aspects of brain function that are impaired in individuals with language and learning difficulties, such as the neural timing precision which allows differentiation between speech syllables.	Fact	Kraus, N. and B. Chandrasekaran, Music training for the development of auditory skills. <i>Nature Reviews Neuroscience</i> , 2010. 11(8): p. 599-605.
Cognitive	All	Musical expertise is associated with distinctive enhancements in how the nervous system encodes sound (such as stronger representation of harmonic information and greater resilience to noise) that emerge with musical training, even in early childhood.	Fact	Strait, D.L., et al., Musical training during early childhood enhances the neural encoding of speech in noise. <i>Brain Lang</i> , 2012. 123(3): p. 191-201.
Cognitive	All	Studies show that even a few years of musical training early in life improve how the brain processes sound, and that the benefits of early exposure to music education last	Fact	Skoe, E. and N. Kraus, A little goes a long way: how the adult brain is shaped by musical training in childhood. <i>The Journal of Neuroscience</i> , 2012. 32(34): p. 11507-11510.

well into adulthood,
years after the training
has ceased

Social	All	“The arts are central to who we are as a people, and they are central to the success of our kids. This is not an afterthought. This is not something you do because it’s nice to do. It is necessary for these young people to succeed that we promote the arts.”	Quote	President Barack Obama
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Social	All	Seven in ten Americans (71%) say that the learnings and habits from music education equip people to be better team players in their careers.	Fact	July 2014 Harris Poll
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Social	All	Two-thirds (67%) of Americans say music education provides people with a disciplined approach to solving problems.	Fact	July 2014 Harris Poll
Social	All	Two-thirds (66%) of Americans say that music education prepares someone to manage the tasks of their job more successfully.	Fact	July 2014 Harris Poll
Cognitive	All	Three in five Americans (61%) said it [music education] provided a disciplined problem solving approach and 59% said it prepared people to manage tasks more successfully.	Fact	July 2014 Harris Poll
Social	All	Four out of five Americans (80%) believe their music education has contributed to their level of personal fulfillment.	Fact	July 2014 Harris Poll

Social	All	"I was twelve when I learned my first three chords on guitar and wrote my first song. My life changed forever... music became the way I told my stories."	Quote	Taylor Swift
Social	All	Music education lays the foundation for individual excellence in group settings, creative problem solving, and flexibility in work situations.	Fact	July 2014 Harris Poll
Health	All	"We don't see these kinds of biological changes in people who are just listening to music, who are not playing an instrument. I like to give the analogy that you're not going to become physically fit just by watching sports."	Quote	Nina Kraus, director of Northwestern's Auditory Neuroscience Laboratory, quoted in Melissa Locker, "This Is How Music Can Change Your Brain," Time, December 16, 2014.
Social	All	"Music is like a dialogue because we can play a certain thing – let's say the violins can play something back –it could be the same melody different notes and it's like a conversation talking	Quote	VIANEY CALIXTO, student and Harmony Project Participant quoted in PBS NEWS HOUR. http://www.pbs.org/newshour/bb/education-jan-june14-harmony_01-04/

back and forth."

Cognitive

All

"People who had musical training are better at hearing speech in noise. And it's not that different from what you're asking your nervous system to do when you're listening for a teacher's voice in a noisy classroom. And so we just simply know that if we ask people to repeat back sentences that are presented to them in background noise that if you have musical training, that you are better at repeating back the sentences accurately than if you did not have that musical training."

Quote

Dr. Nina Kraus, director of Northwestern's Auditory Neuroscience Laboratory quoted PBS NEWS HOUR, http://www.pbs.org/newshour/bb/education-jan-june14-harmony_01-04/

Health	All	Music can meaningfully reduce the perceived intensity of pain, especially in geriatric care, intensive care, or palliative medicine (an area of healthcare that focuses on preventing and relieving the suffering of patients).	Fact	Scott Christ, "20 surprising, science-backed health benefits of music," USA Today, December 17, 2013.
Health	All	One study found that listening to music after a workout can help the body recover faster. While slow music produced a greater relaxation effect post-exercise, it seems that any kind of music can help the physical recovery process.	Fact	Scott Christ, "20 surprising, science-backed health benefits of music," USA Today, December 17, 2013.
Health	All	One study found that playing soft music (and dimming the lights) during a meal can help people slow down while eating and ultimately consume less food in one sitting.	Fact	Scott Christ, "20 surprising, science-backed health benefits of music," USA Today, December 17, 2013.

Health	All	Scientists have found that the emotions patients experience while listening to music have a healthy effect on blood vessel function. Music both made study participants feel happier and resulted in increased blood flow in their blood vessels.	Fact	Scott Christ, "20 surprising, science-backed health benefits of music," USA Today, December 17, 2013.
Cognitive	All	Have you ever felt chills down your spine while listening to music? According to a study by Nusbaum and Silvia (2010), over 90% of us have. How powerful the effects of music, though, depends on your personality. People who are high in one of the five personality dimensions called 'openness to experience', are likely to feel the most chills while listening to music.	Fact	Nusbaum and Silvia, "Shivers and Timbres Personality and the Experience of Chills From Music," Social Psychology & Personality Science, (2010).

Social	All	People high in openness to experience are more likely to play a musical instrument, and more likely to rate music as important to them.	Fact	Nusbaum and Silvia, "Shivers and Timbres Personality and the Experience of Chills From Music," <i>Social Psychology & Personality Science</i> , (2010).
Social	All	In research by Ferguson and Sheldon (2013), participants who listened to upbeat classical compositions by Aaron Copland, while actively trying to feel happier, felt their moods lift more than those who passively listened to the music. This suggests that engaging with music, rather than allowing it to wash over us, gives the experience extra emotional power.	Fact	Ferguson and Sheldon, "Trying to be happier really can work: Two experimental studies," <i>The Journal of Positive Psychology: Dedicated to furthering research and promoting good practice</i> , (2013).
Social	All	A review of 23 studies covering almost 1,500 patients found that listening to music reduced heart rate, blood pressure and anxiety in heart disease patients.	Fact	Bradt & Dileo, "Music for stress and anxiety reduction in coronary heart disease patients," <i>PubMed.Gov</i> , 2009

Cognitive	All	According to a study by Kawakami et al. (2013), sad music is enjoyable because it creates an interesting mix of emotions; some negative, some positive. Crucially, we perceive the negative emotions in the music, but don't feel them strongly.	Fact	Kawakami et al., "Sad music induces pleasant emotion," <i>Frontiers in Psychology</i> , (2013).
Social	All	A study by Logeswaran et al. (2009) found that a quick blast of happy music made participants perceive other's faces as happier. The same was true for a snippet of sad music. The biggest effect was seen when people looked at faces with a neutral expression. In other words: people projected the mood of the music they were listening to onto other people's faces.	Fact	Logeswaran et al., "Crossmodal transfer of emotion by music," <i>Neuroscience Letters</i> , (2009).

Social	All	<p>In a study by Palmer et al. (2013), people from both Mexico and the US showed remarkable similarities in connecting duller, darker colors with sadder pieces of music and lighter, more vivid colors with happier music.</p> <p>A follow-up study showed that these music-to-color associations were seen because of the emotional content of the music.</p>	Fact	Palmer et al., "Music–color associations are mediated by emotion," PNAS, (2013).
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Cognitive	All	<p>"Look carefully and you'll find musicians at the top of almost any industry. Woody Allen performs weekly with a jazz band. The television broadcaster Paula Zahn (cello) and the NBC chief White House correspondent Chuck Todd (French horn) attended college on music scholarships; NBC's Andrea Mitchell trained to become a professional violinist. Both Microsoft's Mr. Allen and the venture capitalist Roger McNamee have rock bands. Larry Page, a co-founder of Google, played saxophone in high school. Steven Spielberg is a clarinetist and son of a pianist. The former World Bank president James D. Wolfensohn has played cello at Carnegie Hall."</p>	<p>Quote Joanne Lipman, "Is Music the Key to Success?" The New York Times, October 13, 2013. http://www.nytimes.com/2013/10/13/opinion/sunday/is-music-the-key-to-success.html?_r=0</p>
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Cognitive	All	"Music may not make you a genius, or rich, or even a better person. But it helps train you to think differently, to process different points of view — and most important, to take pleasure in listening."	Quote	Joanne Lipman, "Is Music the Key to Success?" The New York Times, October 13, 2013. http://www.nytimes.com/2013/10/13/opinion/sunday/is-music-the-key-to-success.html?_r=0
Cognitive	All	Researchers found that those who played an instrument for two years showed a stronger "neurophysiological distinction" between certain sounds than children who didn't get the instrumental training. For instance, the music-makers more easily could tell the difference between the words "bill" and "pill," a key skill in learning to read.	Fact	Skoe, E. & Kraus, N. (2012). A Little Goes a Long Way: How the Adult Brain Is Shaped by Musical Training in Childhood, <i>Journal of Neuroscience</i> , 32 (34) 11510. DOI: 10.1523/JNEUROSCI.1949-12.2012
Cognitive	All	"When you play a musical instrument you have to learn about tone and about scores and your ability to store audio information becomes better. So not only does this make it easier to pick up other	Quote	Quoted in , "Playing a Musical Instrument Makes you Brainier," by Richard Alleyne, <i>The Telegraph</i> , 10/27/2009.

languages and have a better verbal memory in your own language, we have also seen that musicians are able to pick out exactly what others are feeling just on the tone of their voices. Empathy, disappointment, that kind of thing."

Health	All	Studies show that music can trigger the brain to release chemicals that distract the body from pain. When music reaches the brain's auditory cortex, there's communication between the cortex and the brain's areas that control emotion, memory, and motor control.	Fact	Abbie Fenress Swanson, "Music helps vets control symptoms of PTSD," Time, March 8, 2010.
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Cognitive	All	Researchers from Ohio State University's Wexner Medical Center looked at how different types of music and silence were processed in the brains of 21 people with epilepsy. Whether listening to classical music or jazz, all of the participants had much higher levels of brain wave activity when listening to music, the study found. Brain wave activity in the epilepsy patients tended to synchronize more with the music, especially in the temporal lobe, the researchers said.	Fact	Robert Preidt, HealthDay, August 10, 2015
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Cognitive	All	<p>"Music has positive affects on people's emotions and creativity. When we sing together, we synchronize our breathing and feel more connected. Music is also an effective, almost magical medium for learning and retaining information, [because] it activates three different centers of the brain at the same time: language, hearing, and rhythmic motor control. By inducing emotions, it also creates a heightened condition of awareness and mental acuity. Words paired with music are far easier to retain. As an example, most of us can remember the words and meanings of songs we haven't heard for years. Isn't it interesting how you still remember your ABCs?"</p>	<p>Quote Don McMannis quoted in, "Use Music to developm kids' skill and character," Edutopia, March 19, 2009.</p>
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Cognitive	All	<p>"The perception of music and the emotions it can stir is not solely dependent on memory, and music does not have to be familiar to exert its emotional power. I have seen deeply demented patients weep or shiver as they listen to music they have never heard before, and I think that they can experience the entire range of feelings the rest of us can, and that dementia, at least at these times, is no bar to emotional depth. Once one has seen such responses, one knows that there is still a self to be called upon, even if music, and only music, can do the calling."</p>	Quote Oliver Sacks quoted in, "Use Music to developm kids' skill and character," Edutopia, March 19, 2009.
Cognitive	All	<p>"We need people who think with the creative side of their brains— people who have played in a band, who have painted...it enhances symbiotic thinking capabilities, not always thinking in the</p>	Quote Annette Byrd, GlaxoSmithKline

same paradigm,
learning how to kick-
start a new idea, or how
to get a job done
better, less expensively."

Social	All	"I must study politics and war, that my sons may study mathematics and philosophy...in order to give their children the right to study painting, poetry, music and architecture."	Quote	John Q. Adams
Social	All	"Music is universal. It's a gabillion dollar industry, and it is omnipresent. How many hours in a row do you ever go without listening to music? Everywhere you go, everything you watch– music. Always music. We are surrounded in it, bathe in it, soak in it. Why would we not want to know more about something constantly present in our lives? Would you want to live	Quote	Peter Greene, "Stop 'defending' music education," The Huffington Post, June 11, 2015.

in a world without music? Then why would you want to have a school without music?"

Social

All

"Music is freakin' magical. In 40-some years I have never gotten over it — you take some seemingly random marks on a page, you blow air through a carefully constructed tube, and what comes out the other side is a sound that can convey things that words cannot. And you just blow air through a tube. Or pull on a string. Or whack something. And while we can do a million random things with a million random objects, somehow, when we just blow some air through a

Quote Peter Greene, "Stop 'defending' music education," The Huffington Post, June 11, 2015.

tube, we create sounds that can move other human beings, can reach right into our brains and our hearts. That is freakin' magical."

Social	All	"Music is awesome. It's human. It's universal. It's big business precisely because it is something that everybody wants."	Quote	Peter Greene, "Stop 'defending' music education," The Huffington Post.
Health	All	Due to the overlap of brain circuits dedicated to speech and music, and the distributed network of cognitive, sensorimotor, and reward circuits engaged during music making, we believe that music training is a particularly potent driver of brain plasticity	Fact	"Neuroeducation: From the Lab to the Classroom," School-Based Music Summary, Northwestern University.

that influences the biological processes important for listening, language, and learning.

Health	All	Musical training is thought to improve nervous system function by focusing attention on meaningful acoustic cues, and these improvements in auditory processing cascade to language and cognitive skills.	Fact	Nina Kraus, Jessica Slater, Elaine C. Thompson, Jane Hornickel, Dana L. Strait, Trent Nicol, Travis White-Schwoch, "Music Enrichment Programs Improve the Neural Encoding of Speech in At-Risk Children," Journal of Neuroscience, September 3, 2014.
Social	All	"Music is a higher revelation than all wisdom and philosophy."	Quote	Ludwig van Beethoven quoted in "Music Is a Potent Source of Meaning," Tom Jacobs, August 20, 2015.
Social	All	"Music is a more potent instrument than any other for education, because rhythm and harmony find their way into the inward places of the soul."	Quote	Plato.

Educational	All	"Music learning supports all learning. Not that Mozart makes you smarter, but it's a very integrating, stimulating pastime or activity."	Quote	Kenneth Guilmartin, cofounder of Music Together, quoted in "The Benefits of Music Education," PBS.org, Laura Lewis Brown.
Educational	All	"Students of all ages - that includes adults - generally find that music helps them focus more clearly on the task at hand and puts them in a better mood for learning."	Quote	Chris Brewer, founder of LifeSounds Educational Services, quoted in "Boost Memory and Learning with Music," pbs.org, Cheri Lucas.
Health	All	It is said that the state of mankind improves through music; music not only trains but educates individuals and makes them fit for a life of community. Music is spiritual and mental food, an edifying and educational power. In comparison with sports (the motion of bodies), music (the motion of sounds) belongs to a higher sphere. In extreme cases, one encounters the tenet that music actually elevates man into a	Fact	Albrecht Riethmüller, "Music Beyond Ethics," Archiv für Musikwissenschaft, p. 170, Volume 65, Issue 3, 2008.

higher realm,
transforming him into a
new form of the human
species.

Cognitive

All

Both music and language are complex communication systems, in which basic components are combined into high-order structures in accordance with rules. Whether music was an evolutionary precursor to language or merely a byproduct of cognitive faculties that developed to support language, music is pervasive across human cultures and throughout history...

Fact

Nina Kraus, Jessica Slater, "Music and language: relations and disconnections," *The Human Auditory System: Fundamental Organization and Clinical Disorders*, Vol. 29, 3rd Series, 2015.

Cognitive	All	Cross-sectional comparisons of musicians to non-musicians have established a variety of musician enhancements in auditory skills and their neural substrates, extending from enhanced perception and neural encoding of speech, most notably in suboptimal listening conditions, to more proficient auditory working memory and auditory attention.	Fact	Nina Kraus, Dana L. Strait, "Emergence of biological markers of musicianship with school-based music instruction," Annals of the New York Academy of Sciences, 2015.
Educational	All	"Whoever has skill in music is of good temperament and fitted for all things. We must teach music in schools."	Quote	Martin Luther
Social	All	"Music expresses that which cannot be put into words and that which cannot remain silent."	Quote	Victor Hugo.
Social	All	"I would say that music is the easiest means in which to express, but since words are my talent, I must try to express clumsily in words	Quote	William Faulkner.

		what the pure music would have done better."		
Social	All	"After silence, that which comes nearest to expressing the inexpressible is music."	Quote	Aldous Huxley.
Educational	Adult	"Music has impacted me... helping my ability to do math and to read, and to think critically."	Quote	Fatima Gomez, BGCS/Latino Arts Strings Program Alumnus
Educational	Adult	The College Entrance Examination Board found that students involved in public school music programs scored 107 points higher on the SAT's than students with no participation.	Fact	Profiles of SAT and Achievement Test Takers, The College Board, compiled by the Music Educators National Conference (2002)

Cognitive	Adult	Adults who receive formal music instruction as children have more robust brainstem responses to sound than peers who never participate in music lessons and that the magnitude of the response correlates with how recently training ceased. These results suggest that neural changes accompanying musical training during childhood are retained in adulthood.	Fact	Skoe, E. & Kraus, N. (2012). A Little Goes a Long Way: How the Adult Brain Is Shaped by Musical Training in Childhood, <i>Journal of Neuroscience</i> , 32 (34) 11510. DOI: 10.1523/JNEUROSCI.1949-12.2012
Social	Adult	Graduates from music programs report that creativity, teamwork, communication, and critical thinking are skills necessary in their work, regardless of whether they are working in music or other fields.	Fact	Craft, A. (2001). An Analysis of Research and Literature on Creativity and Education. Report Prepared for the Qualifications and Curriculum Authority. Coventry, England. Strategic National Arts Alumni Project (SNAAP). (2010). Forks in the Road: The Many Paths of Arts Alumni: Strategic National Arts Alumni Project 2010 Findings. Bloomington, IN.

Educational	Adult	Nearly half of parents and teachers support integrating music into the professional development of all educators	Fact	NAMM Foundation and Grunwald Associates LLC (2015). Striking a Chord: The Public's Hopes and Beliefs for K-12 Music Education in the United States: 2015.
Health	Adult	A study of healthy male college students found that, while riding stationary bicycles, the participants worked harder while listening to fast music. Extra bonus: They also enjoyed the music more.	Fact	Scott Christ, "20 surprising, science-backed health benefits of music," USA Today, December 17, 2013.
Health	Adult	Listening to classical music has been shown to effectively treat insomnia in college students.	Fact	Scott Christ, "20 surprising, science-backed health benefits of music," USA Today, December 17, 2013.

Social	Adult	Both the Greek and Roman armies used brass and percussion instruments — including the ancestors of the modern cornet and tuba — to convey information on the march, in the field and in camp. Greek armies on campaign employed musicians to accompany poetic recitations of odes and paeans designed to remind soldier and citizen alike of the valor of past heroes. After the collapse of Rome in the West, its tradition of martial music was preserved and refined by the Eastern empire in Byzantium.	Fact	HistoryNet Staff, "The Music of War," History.net, June 6, 2012.
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Educational	Adult	<p>Soldiers of the 1700s were required to function almost as automatons, to obey, smoothly and in formation, whatever commands were given by their superiors. With clouds of gunsmoke added to the din of combat, oral commands or personal example were not always reliable means of giving direction to an army. An order that was not heard — or worse, not understood — could be as dangerous as the enemy. Musically transmitted signals, however, could be heard above the crash of gunfire. The voice of the trumpet and the cadence of the drums were clear and unambiguous, making them vital to command and control.</p>	Fact	<p>HistoryNet Staff, "The Music of War," History.net, June 6, 2012.</p>
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Social	Adult	<p>When the first American soldiers manual — compiled by Maj. Gen. Wilhelm von Steuben — was issued to the Continental Army in 1778, it contained a list of beats and signals modeled on those used in European armies. More quickly than in Europe, however, the bugle replaced the fife and drum ensemble in the American ranks. In 1867 bugle calls for the U.S. armed forces, mostly patterned after French models, were codified and standardized into a form that largely survives today.</p>	Fact	HistoryNet Staff, "The Music of War," History.net, June 6, 2012.
Social	Adult	<p>While burgeoning technology eclipsed the need for music to accompany movement on the battlefield by the mid-20th century, it remained an effective means by which states could manipulate the morale, energies and attitudes of armies and indeed entire</p>	Fact	HistoryNet Staff, "The Music of War," History.net, June 6, 2012.

populations.

Cognitive

Adult

"You have to understand what it means for a combat veteran to be agitated in the waiting room. Their pupils are dilated. They are angry or waiting for something to happen. But when we have live music that day, they come to me far more relaxed. It's like an amazing miracle, and I don't say that lightly."

Quote

Dr. Hani Khouzam, quoted in, "Live music at Fresno's VA Hospital makes a big difference," by Diana Marcum, *Los Angeles Times*, January 16, 2013.

Educational	Adult	<p>The formal discipline of music therapy has a rich, long history in providing services for our American heroes. It began after World Wars I and II, when community musicians performed in veterans' hospitals and medical professionals noticed patients' positive and emotional responses to music. In 1944, when it became evident that these hospital musicians required special training, the first music therapy degree program was founded. Currently, approximately 50 qualified music therapists work in VA hospitals throughout the U.S., according to Al Bumanis, director of communications at the American Music Therapy Association.</p>	Fact	<p>"Music Therapy and the Military," by Ronna Kaplan, Huffington Post, March 4, 2013.</p>
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Cognitive	Adult	Music therapy utilizing improvisation on hand drums helped veterans modulate their "often misdirected, exaggerated, and unrecognized emotions," with the goal being generalization of these skills to everyday life. Drumming provided an opportunity for the men to express and control their feelings and helped build a sense of connectedness and group mission.	Fact	Burt, J. W. (1995). Distant Thunder: Drumming with Vietnam Veterans. <i>Music Therapy Perspectives</i> , 13, 110-112; quoted in, "Music Therapy and the Military," by Ronna Kaplan, <i>Huffington Post</i> , March 4, 2013.
Social	Adult	Since 2005, the VA has more than doubled the number of music therapists at its clinics.	Fact	Abbie Fenress Swanson, "Music helps vets control symptoms of PTSD," <i>Time</i> , March 8, 2010.
Educational	Adult	Schools with music programs have an estimated 90.2% graduation rate and 93.9% attendance rate compared to schools without music education programs who average 72.9% graduation and 84.9% attendance.	Fact	(2017). <i>Why Music Education</i> ; quoted in <i>Sounds Academy</i> , February 2, 2017.

Educational	Adult	"The value of music programs is immeasurable in the development of a young person's identity in being part of a community."	Quote	Colin Cripps, 2017, quoted in, "2017 MusiCounts Teacher of the Year Recipient," MusicCounts, February 6, 2017.
Educational	Adult	"Music isn't optional. It needs to be given priority in schools as they're deciding what's important."	Quote	Jimi Westbrook, Little Big Town, quoted in "Little Big Town Surprises a High School Choir to Promote Music Education," by Steve Helling, People, January 21, 2017
Educational	Adult	"Music education is so important for kids. Obviously, it helps them learn about music, but it also develops their creativity. The students learn to work together as a group. There are so many life lessons that can be taught through music."	Quote	Karen Fairchild, Little Big Town, quoted in "Little Big Town Surprises a High School Choir to Promote Music Education," by Steve Helling, People, January 21, 2017
Cognitive	Adult	"Playing a musical instrument in a group engages more regions of the brain simultaneously than any other activity."	Quote	Bryan Tuk, quoted in "Creativity Works column: The consequences of cutting music programs," by William Childs, The Morning Call, January 19, 2017

Educational	Adult	Research indicates that musicians perform significantly better on tests of Spatial-Temporal Skills, Math Ability Reading Skills, Vocabulary, Verbal Memory, and Phonemic Awareness.	Fact	(2017). Why Music Education; quoted in Sounds Academy, February 2, 2017.
Educational	Adult	89% of school principals surveyed believed a high-quality music education program helps to their school achieving higher graduation rates.	Fact	(2017). Why Music Education Matters; quoted in Mark Wood Music Foundation, February 6, 2017.
Educational	Child	"I think every child deserves to learn music, just like every child deserves to learn how to read and do math."	Quote	Lydia Kontos, quoted in "NYC's only K-12 school with music as core subject sees high outcomes," by Tara Garcia, Education Dive, January 17, 2017
Educational	Child	"The research is clear and undisputed: students who study music perform better overall. Music study enhances other academic studies through the intrinsic development of creative thinking, problem solving, and language skills."	Quote	Dr. Richard Nickerson, quoted in "Fostering Empowerment: Music Educator Award™ Finalist Richard Nickerson," by Brendan McAloon, NAFME, February 6, 2017

Educational	Teen	Playing an instrument helps youngsters better process speech in noisy classrooms and more accurately interpret the nuances of language that are conveyed by subtle changes in the human voice.	Fact	(2017). Why Music Education Matters; quoted in the Phoenix Symphony, February 6, 2017.
Educational	Child	Students who report consistent high levels of involvement in instrumental music over the middle and high school years show significantly higher levels of mathematics proficiency by grade 12.	Fact	(2017). Why Music Education Matters; quoted in the Phoenix Symphony, February 6, 2017.
Educational	Child	Music engages both sides of the brain and your child must concentrate on doing several things simultaneously: reading the music; creating the right sounds with their instrument; listening to the sounds created; following the music; keeping tempo; listening to other musicians; and paying	Fact	(2017). Top 10 Facts About Music Education; quoted in Trinity Grammar School, February 6, 2017.

attention to the
conductor's instructions.

Educational	Child	"Music has saved a lot of children because sometimes children are hyperactive and they don't know what to do with all that energy. When you get them involved in music and the arts it gives them something to focus on and they realize it's something that they're good at."	Quote	Kalena Bovell, quoted in "Chicago Sinfonietta conductor Kalena Bovell talks importance of music education," by Lauren Martinez, Rolling Out, December 24, 2016.
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Educational	Child	"The development of multicultural music teaching would help to make music education more appealing for all; support in overcoming barriers to participation such as providing transportation for inter-school activities and buddy systems would also help. We need to communicate the value of music education as a pathway to creative industries to parents, and also encourage partnerships between schools and musicians".	Quote	Professor Graham Welch, quoted in "Children still face barriers in accessing music education," UCL, April 20, 2016.
Educational	Child	The researchers found that studying music alters teen brains in a way that makes them better able to focus and process sound — a development that's particularly important for learning.	Fact	(2017). Northwestern study finds music education changes the teen brain; quoted in The Chicago Crusader, February 6, 2017.

Educational	Teen	“While we’re teaching them music skills, we’re teaching them life skills, too — how to be self-disciplined, motivate themselves and get through the tasks that have been assigned to them and come back with a little bit of a product that we can work with next time.”	Quote	Bryan Holbrook, quoted in "Hayward: Mariachi enlivens Winton music program," by Darin Moriki, East Bay Times, February 3, 2017.
Social	Teen	“Last year, there were a lot of women in the [mentor band] program; this year, there’s a lot of ethnic diversity. It’s important for kids to see people who look like them.”	Quote	Katie Carroll, quoted in "Strings' Mozart Masters program begins in Steamboat Springs area schools," by Julia Ben-Asher, Steamboat Today, October 13, 2016
Educational	Child	Music teacher Gavriel Patterson said he has seen "an increased level of engagement and motivation when students are playing new instruments."	Quote	Gavriel Patterson, quoted in "Music teacher wants to give students 'joy of ensemble playing': Season of Sharing 2016," by Susan Green, Oregon Live, October 12, 2016
Educational	Teen	"Being a part of a music department 'family' can change a kid's life. The skills that they learn and develop will help them succeed no matter where life leads them	Quote	Amy Rangel, quoted in "\$20k grant helps fulfill Glendale High's musical wish list," by Kelly Corrigan, Los Angeles Times, October 11, 2016

after high school."

Cognitive

Teen

"When you think about the process of playing a wind instrument, there's a lot more than just moving your fingers and blowing air, because you're actually looking at a page and processing what you see on that page and converting that information into a whole array of fingers, air and using your tongue and everything else at the same time, and then you have to actually physically do that. It uses so much of your brain, and when you're a fifth-grader, that's a lot. You're using more parts of your brain simultaneously than you've ever done."

Quote

Joey Sam, quoted in "Despite obstacles, music education still thrives in county," by Chance Farmer, The Paris Post-Intelligencer, October 11, 2016

Cognitive	Child	Research shows that making music changes the brain, and that these brain changes have tangible impacts on listening skills, learning and cognition.	Fact	(2017). Music, hearing, and education: from the lab to the classroom; quoted in Northwestern University, September/October, 2017.
Cognitive	Child	Individuals who took music lessons as children show stronger neural processing of sound: young adults and even older adults who have not played an instrument for up to 50 years show enhanced neural processing compared to their peers.	Fact	(2017). Music, hearing, and education: from the lab to the classroom; quoted in Northwestern University, September/October, 2017.
Social	Child	"Music students are engaged, focused, happy, excited to come to school, and feel like they have a family that they can relate to in their school setting. We see a correlation between music participation and ACT scores and grade-point averages in graduation rates."	Quote	Laurie Schell, quoted in "Expanding Music Education: It's OK to be Iterative," by Talking Up Music Education, October 20, 2015

Social	Teen	"Music education has given me the experience to know how music impacts people; and to see it at such a large scale, like Grand Nationals, it's really remarkable." -	Quote	Noah Burgess, quoted in "LIVE from Music for All-Bands of America: Band Kids Rock," by Talking Up Music Education, November 25, 2015
Social	Teen	"The number-one challenge facing this generation is social isolation. Music and the arts create community, and they can end social isolation, they can create connection." –	Quote	David Brooks, quoted in "Be Bold! Music & Arts Advocacy at the RNC," by Talking Up Music Education, August 18, 2016
Cognitive	Infant	Careful observation of children's musical development has shown that it is never too early for musical learning. Musical aptitude may actually begin in the womb.	Fact	Learning the language of music: is it child's play?, by Wendell Hanna, OUPblog, March 4, 2017
Educational	Child	"I took it for granted until all these years later, where I'm looking at schools that do away with music programs quickly, because it's seen to be the easiest thing to get rid of. I find that shocking. I've met	Quote	Keith Urban, quoted in "Keith Urban on Gutting School Music Programs: 'I Find That Shocking'" by Robert Crawford, Rolling Stone Magazine, March 2, 2017

so many kids over the years that use music to communicate. It's where they get their self-esteem from. To just do away with that is scary to me."

Cognitive

All

"People who get the chills from music actually have structural differences in the brain. They have a higher volume of fibers that connect their auditory cortex to the areas associated with emotional processing, which means the two areas communicate better."

Quote

Matthew Sachs, quoted on "If You Get the Chills From Music, You May Have a Unique Brain," Neuroscience News, February 27, 2017.
<http://neurosciencenews.com/music-chills-neuroscience-6167/>

Social

All

"[Drumming] allows you to relate with others, non-verbally, and still talk to each other through rhythm. It also allows you to be aware of those around you, to be part of something bigger than just yourself."

Quote

Teresa Dunn, quoted in "Drumming out Stress" by Samuel Northrup, UC Tangerine, 2/24/2017

Cognitive	Infant	If [a] mother enjoys the music she is listening to and is in a relaxed state of mind, the unborn child benefits.	Fact	"Why You Should Consciously Introduce Music In Your Child's Life," by Lina Asher, Huffington Post, February 25, 2017
Cognitive	Adult	"[Music] brings patients suffering from Alzheimer's or dementia] back to life, allowing them to socialize and converse better than they had been able to before."	Quote	Jenny Bourque, quoted in "Music & Memory is changing how doctors treat memory-related diseases in the elderly," The Daily Orange, February 21, 2017
Educational	Teen	"Music isn't just a fun thing kids can do, it's a legitimate career path."	Quote	Hamish Tait, quoted in "Music improves the brain" The Daily Advertiser, February 18, 2017
Cognitive	Child	"Music opens up a child's eyes, ears, heart and soul and gives them the ability to step into a life of prosperity. It has been proven that when a child is provided with music education, it leaves a profound effect on the rest of their lives."	Quote	Mary Fanaro, quoted in "How music is changing lives of vulnerable children," by Lydia Atieno and Donata Kiiza, The New Times, February 17, 2017
Educational	Teen	"Music can help with you with language acquisition, math, reasoning and multi-tasking. You might not get that experience in	Quote	Darryl Miyasato, quoted in "Music Classes More Than Learning to Sing, Play Instruments," by David McCracken, The Garden Island, February 14, 2017

other electives."

Cognitive	Child	Music can bolster listening skills, improve motor skills, assist with problem solving, and promote spatial-temporal reasoning.	Fact	"How Music and Singing Benefits Children." The Gleaner, February 14, 2017
Cognitive	All	"Our auditory systems, our nervous systems, are indeed exquisitely tuned for music."	Quote	Oliver Sacks, quoted in "How Music Inspires and Empowers Rural Africans to Steward Their Environment," by Alex Paullin, February 15, 2017
Cognitive	Child	"[Music] improves their memory and concentration, their social skills and their self esteem, they develop patience and perseverance and those skills can be applied to everything in life."	Quote	Jaci Bates, quoted in "£1m endowment fund for children to take up music," by Colette Hume, BBC News, February 13, 2017
Cognitive	All	From making you smarter, to diminishing the effects of brain aging, to improving emotional stability, it seems that playing an instrument has a hand	Fact	"10 Reasons Why Making Music is Good For Your Brain," True Viral News, January 2, 2017

in reconfiguring your brain and enhancing it.

Cognitive	All	"Stroke patients who have lost the ability to speak can be trained to say hundreds of phrases by singing them first."	Quote	Gottfried Schlaug, quoted in "Making Music Boosts Brain's Language Skills," by Victoria Jaggard, National Geographic, February 13, 2017
Cognitive	Infant	Music- whether it's prenatally, in infancy, or throughout childhood- helps neurons in our brains form connections that may help us understand language; in adults, music can lower blood pressure and help regulate heart rate.	Fact	"The Amazing Benefits of Music for Kids," by Lauren Slater, Parenting
Social	All	"We need music, not because it will improve us, but because it's a part of who we are, a part of our human cultural heritage."	Quote	Robert Cutietta, quoted in "The Amazing Benefits of Music for Kids," Parenting
Cognitive	All	"Music passes into our limbic system, which is where our emotions lie. So music gets to the heart of our emotions."	Quote	Russell Hilliard, quoted in "Hospice Music Therapy Provides Support for Dying Patients," by Bill Ward in Next Avenue, February 7, 2017

		Music is so intuitively good for us."		
Educational	Teen	"Music is just enjoyable and the reason behind that is it brings me happiness and joy."	Quote	Andrew Roof, quoted in "Jamestown High School Music Brings Benefits To Students," The Post Journal, March 5, 2017
Educational	Teen	"Sometimes it is a misconception that music might take away from your academics but it is the complete opposite. It is such a relaxing activity that it helps you when you go back to your academics to stay in the zone."	Quote	Emily Anderson, quoted in "Jamestown High School Music Brings Benefits To Students," The Post Journal, March 5, 2017
Cognitive	All	One easy way for older adults to get deeper sleep and stronger memories is to listen to a certain soothing sound called "pink noise"—a mix of high and low frequencies that sounds more balanced and natural than its better-known cousin, 'white noise.'	Fact	Frontiers in Human Neuroscience, "The Sound of 'Pink Noise' Improves Sleep and Memory," by Amanda MacMillan, TIME, March 8, 2017

Social	All	On music, "We don't share a language, home, culture or ethnicity, but we have this repertoire that binds us together. We have this fabric across the country."	Quote	Gordon Stobbe, quoted in "Famed violinist inspires students," by Paul Krajewski, High River Times, March 10, 2017
Cognitive	All	"High pitch, high distortion, and fast tempo are associated with high energy."	Quote	Janice Wang, quoted in "Music makes curries taste 10pc spicier, scientists find," by Katie Morley, The Telegraph, March 12, 2017
Cognitive	Child	Musical play has also been shown to increase overall attention as well as heighten musical skill development. When adults participate alongside children in musical play, the benefits are increased even further.	Fact	"Learning the language of music: is it child's play?," by Wendell Hanna, OUPblog, March 4, 2017