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DOES MUSIC MAKE YOU SMARTER?

These are heady times, no pun intended, for research into the effects of music on development and intelligence. Children's musical activities are now scrutinized by psychologists and neurobiologists, while rats are sent scurrying through lab mazes to the strains of Mozart—and children born in the state of Georgia are sent home from the hospital with a classical music tape, along with that inky footprint! Research findings are generating headlines and being championed by advocates like Hillary Clinton; but are some parents getting the wrong message? Is today's music-making expected to be tomorrow's S.A.T. slam dunk, with "music" just a more lyrical way to spell "success"?

"The research is very exciting, and it highlights how powerful musical experience is in human development," says Kenneth K. Guilmartin, founder and director of Music Together and the Center for Music and Young Children (CMYC) in Princeton. "Music and movement are powerful learning mediums because they involve so much of our human selves: our seeing, hearing, kinesthetic and tactile feelings, large and small motor movements, and our emotions—all processed and coordinated simultaneously by our brain." But, Ken cautions, research findings can be presented in a distorted light. "Too often, music-making is portrayed by the media and educators as a stepping stone to other skills, rather than as a uniquely human capacity with profound value all its own."

Some of the most innovative research has come from Frances H. Rauscher, Ph.D., and her colleagues. In studies conducted at the University of California at Irvine, they found that college students who listened to a Mozart sonata scored several points higher on IQ tests measuring spatial-temporal reasoning. Other studies by Rauscher *et al.* established a *causal* effect in three-year-olds between music training (specifically keyboard training) and improvement in spatial-temporal test scores. While Rauscher found that the impact of listening to a recorded sonata was temporary (the college students' spatial-temporal test scores improved for only 10 minutes!), her research into music training with three-year-olds showed the sonata's effects to be still present after three months.

Rauscher points out the distinction between causal

research and correlational studies, which do not establish cause and effect. For example, in other research, a *correlation* was found between spatial task performance and musical abilities in older children. Another correlation study demonstrated that first graders who enrolled in extra music and visual arts classes had more significant improvements in reading and math test scores than did children not so enrolled. In contrast, EEG studies



AN INFANT RESEARCHES ACOUSTIC PHENOMENA

actually demonstrate that the same brain regions activated while listening to music come into play during the performance of spatial-temporal tasks. This supports a neurophysiological basis for music's enhancement of the performance of these tasks.

Yet research has also exposed several music myths, as Dr. Rauscher pointed out at the Music Educators National Conference last April. Some popular misconceptions are that classical music is "better for you" than other kinds of music, that all kinds of intelligence can be improved by music instruction, and that just listening to music brings about the same benefits as does music-making. And researchers concede that there are many questions that remain unanswered: Is there any specific age when spatial-temporal reasoning is most enhanced through musical activities? And what exactly happens within the brain as it engages—with the rest of the body—in making music?

"Researchers are finding that music carries over into other kinds of learning, and that's fascinating,"

says Lili Levinowitz, Ph.D., Music Together program co-author and associate professor of music education at Rowan University. But, Lili points out, instead of bombarding children with recorded concertos or pressuring them to excel at violin, parents should help make music an integral part of a child's daily life and expression.

"If parents do want their children to take advantage of the highly developmental richness of music study, then they first need to help their children reach basic music competence," says Ken, who defines basic competence as being able to sing in tune and with accurate rhythm. "Children who grow up making music in a developmentally appropriate way can achieve that competence as early as age three. However, after a decade of working with families and preschool programs, we have found that children in the United States, and probably in other industrialized countries as well, suffer a delay in music development of from two to five years."

"Once children master that musical 'language,' then they are ready for school music programs or private lessons, if parents want to support formal study," Ken continues.

"Without basic tonal and rhythm competence, however, putting children in a goal- or practice-oriented program just leads to frustration and disappointment." Particularly in children's youngest years, says Ken, music shouldn't be about hitting the 'right' notes or performing before an audience—nor increasing their intellectual capacities! "Instead, all babies and children, not just those perceived to be 'talented,' should be given the opportunity to be who they were born to be: sound-makers, who, by playing with sound, become music-makers."

Does music make you or your child smarter? We'll leave that question to those intrepid researchers who are unveiling the secrets of music and the brain. But having made music for over a decade with thousands of families in hundreds of Music Together centers across the country, here are our own irrefutable findings: that music is good for you and the joy and pleasure it brings is healthy. Done appropriately and early enough in life, music enables any child to claim his or her birthright in the human family of music-makers.

MUSIC TOGETHER

NEWS AND INFORMATION

TEACHER EDUCATION

"I've never had a job which was so satisfying. I'm living an artistic life doing Music Together," says center director Lizz Hodgin. Teaching Music Together is ideal for many because it is flexible, musically challenging, and fun. Music Together succeeds because it is a balanced program—with music children love, activities and information parents need, and structure and creativity teachers want.

Preschool teachers, dancers, musicians, music therapists, movement specialists, parents—all are welcome to take our teacher education workshop, and most will find a Music Together teaching job close to home.

See the tear-out panel to the left for workshop descriptions and registration information. You, too, could be as happy as Lizz Hodgin, as she celebrates growing from 35 to 500 families in two years! Congratulations to Lizz and to all the other terrific center directors who bring a special quality of music and love to the people in their communities.

CMYC NEWS: CONVENTIONS!

Ken and Lili have been busy spreading the word about early childhood music. Ken presented at the Early Childhood Music and Movement Association Conference in Baltimore and at the Music Educators National Conference in Phoenix. Last summer, Ken conducted teacher education workshops in Atlanta, Chicago, Princeton, Los Angeles and Seattle.

Program co-author Lili Levinowitz joined Ken on an early childhood panel for Music Teachers National Association in Nashville. A professor at Rowan College of New Jersey, Lili recently wrote on the importance of music in early childhood, for publication in several professional journals. Lili conducted teacher training workshops this summer in Fort Worth, Princeton, DC, Boston and Minneapolis.

Music Together will attend conferences for the National Guild of Community Schools of the Arts (Dallas, November 11-15) and the National Association for the Education of Young Children (Toronto, November 18-22). Stop in and say hello!

PARENTS WRITE BACK

One of the ways in which Music Together celebrated its 10th anniversary last year was to send out 4,000 surveys to our far-flung alumni. Responses started arriving in the spring, and CMYC's Director of Research Lili Levinowitz began to tabulate the results.

"Apparently, our biggest impact has been in helping parents understand their children's music development," Lili says. "Parents tell us that Music Together has made them much better consumers of music education. They have a better idea now of what to look for in a music teacher, for instance, and when their child should start formal lessons."

And Lili, whose doctorate is in the psychology of music, cites how much she's learned after more than a decade of Music Together. "As it turns out, there really isn't any one way to teach," she says, "only endless ways to enhance how different families experience music together."



MAKING MUSIC TOGETHER

Children — and adults alike — have lots of fun doing "sound research" at the CMYC lab school in Princeton! Top left: Instruments inspire rhythmic play. Children explore them both as objects and for the variety of sounds they make.

Bottom left: Parents and children experience rhythm together. Playing along

with parents in class is one of children's favorite activities, keeping their own versions of beat one of their supreme pleasures. Top right: Ken demonstrates music development characteristics at a recent teacher education workshop, where teachers, preschool professionals, and CMYC staff share classroom observations and research findings. Bottom right: Movement, often enhanced by props like these colorful Rainbow Scarves (see *Instrument Suggestions*, right panel), allows children to directly feel and express both rhythms and melodies.



DIRECTOR'S LETTER

Dear Parents, Caregivers, and Teachers,

From its beginnings in the mid-'80s, Music Together's evolution has been driven by research and development—both formal academic research and a “let's try this” attitude of creative experimentation. When Lili or I attend and present at conferences on child development and music education, we meet many dedicated researchers, bringing their findings back to our “lab school” at the Center for Music and Young Children. Our classrooms, however, are a different kind of “laboratory” than those used by neurologists investigating the musical brain. Our research interests also extend to how music functions within families and communities.

A major “research center” for your child's development, for example, is in your home. (See “Home Research” under *Activities*.) That is where children begin their lifelong relationship to two complementary worlds of sound—language and music—which they learn in analogous ways and at parallel times. Children are the real “researchers,” taking the “data” of the sounds adults make and experimenting with these in their play. Ideally a child's environment consistently stimulates and supports both language and music development. Just as you wouldn't think of shielding your child from the crucial experience of language in her first year of life, so too with music. Children “learn” music by seeing people they love model how to be actively musical.

In your home “laboratory,” you'll witness your children go through a music babble stage, just like a language babble stage or a drawing scribble stage. Those squeals are their first musical experiments, with movement an essential part of their music-making—notice how babies gesture or bounce rhythmically when they're making sounds? Those first improvisations need to be acknowledged and encouraged, praised and relished, just like your baby's first words.

But while parents goo-goo and gaa-gaa with great delight, joining in with their children's sound-play in the first months of life, they tend to reinforce only words once children start to speak. Parents replace soundplay with precise repetitions of recognizable consonants and vowels. That's great for language, but it cuts off the “funding” for the other major research project in your child's sound lab!

And while we accept the fact that talking is improvisational, since no one expects children to express themselves through recited bits of memorized poems or plays, we may tend to discourage children when they begin to make up spontaneous songs in their second year of life. We steer them to “real” songs instead, even though their improvised songs are the musical equivalent of talking. By not encouraging that improvisation or, worse, by discounting or correcting children's experimentation, we dampen their musical growth, just at the time in their lives when spontaneous music can be as common and as easy as conversation.

Music for children then becomes a matter of memorizing songs, rather than a personal exploration of rhythm and melody. It is that exploration that we want to foster, to help your child's sound “research” grow into a sustained and lifelong pleasure.

Have a great winter—and make sure music is a part of it!



Kenneth K. Guilmartin
Founder/Director, Center for Music and Young Children

CENTER NOTES

Linda Thornton teaches eight mixed-age Music Together classes at Bennett Conservatory of Music in Croton-on-Hudson—and one class as a baby pilot program. “Preparing for the baby class helped me understand more about how babies learn and how vocal and verbal progress is made,” she says. “It's taught me what comes first, after knowing what comes later, completing the picture and making children's musical progression much more clear.”

Here is one of Linda's first findings: “Babies experiment with their voices, until they start to speak, when they stop experimenting.” (See the Director's Letter!) “Now I understand why vocal range extension play is so important for older children.” And the babies, who range from seven weeks to seven months, turn out to be Linda's most sociable class! “By the third week, all nine of them wouldn't stop babbling to each other—whereas two-year-olds won't talk to anyone until they get to know them well. That's another reason why I think working with the babies is so important: you actually get farther with them more quickly than you can with older children, because they're trying so hard to communicate.”

And babies sure help hone those observation skills! “It's especially important to take your cues from what the babies are doing, instead of relying on the movements you're accustomed to,” Linda continues. “Validate the way they wave their arms by using it as a rhythmic movement, and when infants clutch a finger, make it an opportunity to move your hand and theirs to the beat.”

RESOURCES

While Frances H. Rauscher researches the effects of Mozart on intelligence, Don Campbell, the founder of the Institute of Music, Health, and Education in Boulder, Colorado, is studying “The Mozart Effect.” That is the title of his best-selling book (Avon Books, 1997), in which Campbell depicts all forms of music as a key that unlocks our deep unconscious. Taking a much broader view than do academic researchers, Campbell portrays music as a potent creative energy, a powerful motivator, and a profound healing force.

While music is used around the world for healing, Campbell writes, it has been lost as a therapeutic treatment in the West. He lists almost fifty conditions and diseases, from autism to writer's block and provides for each a compelling narrative of how music relieves and heals. He also delivers a provocative discussion of how different types of music within our culture meet the psychological needs of various audiences, from rock and rap with their unavoidable beat, to New Age and jazz.

And he recounts the remarkable tale of an African tribe, in which a mother composes her child's life song even before the child is conceived. That child grows up surrounded by villagers who sing her song at every great ritual, triumph, or loss of her life, hearing it for the last time as she dies. It is a poignant reminder of how powerfully music and movement engage, move, soothe, and sway us, living as we do, Campbell writes, in a world that “is inherently musical.”

ACTIVITIES

Ready to do some research at home? Many of us have observed children making music not only in class—but at home, as parents ourselves. Here's what to look for while you're a musical fly on the wall.

When does your child make music spontaneously? Because all children do, usually around some daily ritual or activity that inspires some automatic chant, hum, or burst of rhythm. Maybe it's when they take their toys out or perhaps while they're riding to daycare—or even when their diapers are being changed! Notice what kinds of activities your child likes to set to music—and then create some more.

Most of us already have favorite songs we sing together at bedtime or as a grace before meals. What other daily activities could use musical accompaniment? Taking a bath, brushing your teeth, getting on your shoes, pouring juice, setting the table—we have dozens of rituals we do every day, each one an opportunity to create music and movement. Note when you listen to the radio—then turn it off and substitute your own live music. Making dinner together or riding in the car are perfect opportunities for some family improvisations.

And find ways to hear music being made, as well. It's particularly valuable if you can find other children who are making it. Most communities have children's chorales, holiday concerts, or local orchestras. These are usually free, and they offer a room full of role models, other children your child can watch making music.