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 Early Childhood Music Teacher Training,
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Kindermusik International (800) 628-5687
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 Marcia McCarry, PO Box 1163, Livingston, MT 59047

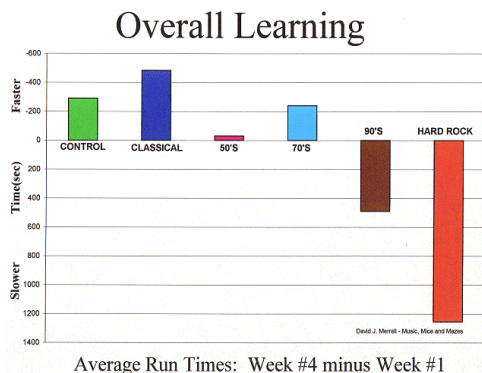
Suzuki Association of the Americas
 www.suzukiassociation.org
 PO Box 17310, Boulder, CO 80308
 (303) 444-0948

From: *Music's Gifts to the Developing Mind* (audiotape set)
Kindling Touch Publications
 Dee Coulter, Ph.D (303) 530-5058

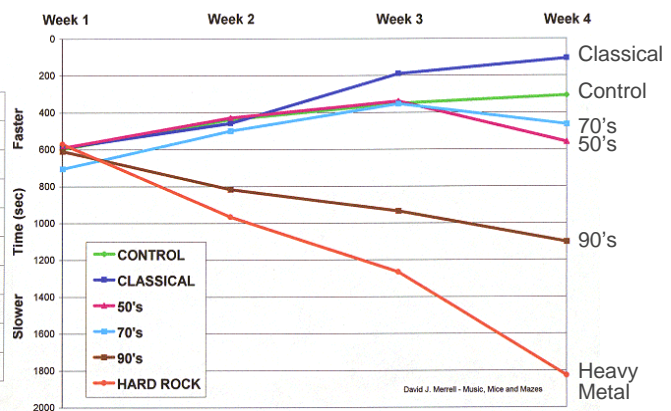
RESEARCH FACTS OVERVIEW

- College students temporarily improved spatial-temporal IQ scores by 8-10 points after listening to Mozart, when compared with relaxation music and no music. (1)
- Preschool children given six months of keyboard instruction increased spatial-temporal IQ scores by an average of 46% over other supplemental instruction (singing, computer, free play). (2)
- Human attitudes change with music; hostility, fatigue, sadness & tension decrease with classical and “designer” music, but dramatically increase with “grunge rock.”(3)
- Plants exposed to classical music flourished while those exposed to rock and heavily percussive music were less healthy and turned away from the source of sound, many finally dying. (4)
- Mice exposed to Strauss waltzes showed increased and orderly neuron development, while those exposed to “disharmonic” non-synchronized drum beats showed erratic and pathological growth of neurons. (5)
- Rats exposed to Mozart music from before birth to 60 days old were able to learn mazes over twice as fast as those with no music, whereas rats exposed to repetitive “minimalist” music were unable to navigate mazes at all. (6)
- Mice exposed for 3 weeks to Mozart were able to run mazes significantly faster than mice with no music, and mice exposed to other forms of music--70’s, 50’s, 90’s and “heavy metal” all performed worse than the control group. (7)

Charts from David Merrell's science fair mice experiments:



Summary of Average Time Trials



RESEARCH CITED - PRIMARY SOURCES

Experiment with College Students and Listening:

1. "Listening to Mozart enhances spatial-temporal reasoning: Towards a neurophysiological basis" (Rauscher, Shaw, Ky) *Neuroscience Letters*, #185, 1995, (pp. 44-47)

Experiment with Preschool Children and Music Instruction:

2. "Music training causes long-term enhancement of preschool children's spatial-temporal reasoning" (Rauscher, Shaw, Levine, Wright, Dennis, Newcomb) *Neurological Research*, Volume 19, No. 1, February 1997 *

Experiment on Mood:

3. "The effects of different types of music on mood, tension and mental clarity" (McCraty, Barrios-Choplin, Atkinson, Tomassino) *Alternative Therapies*, Volume 4, No. 1, January 1998

Experiments with Plants:

4. *The Sound of Music and Plants*, by Dorothy L. Retallack (out of print, but summaries of her work are contained in *The Secret Life of Plants*, by Peter Tomkins and Christopher Bird, HarperCollins, 1989, ISBN: 0060915870)

Experiments with Rats and Mice:

5. "Neural plasticity of mus musculus in response to disharmonic sound" (Gervasia Schreckenber & Harvey H. Bird) *Bulletin of the New Jersey Academy of Science*, Volume 32, No. 2, pp. 77-86, Fall 1987
6. "Improved maze learning through early music exposure in rats" (Rauscher, Robinson, Jens) *Neurological Research*, Volume 20, No. 5, 1998 *
7. Music, Mice & Mazes: "The Classic/Rock Run" (1996, David Merrell, Virginia State Science Fair)
Music, Mice & Mazes: "Changes Through the Ages" (1997, David Merrell, Nansemond River High School, Suffolk, VA)

* Reprints of *Neurological Research* are available from: Forefront Publishing Group (203) 834-0631

BIBLIOGRAPHY & ADDITIONAL RESOURCES

Ability Development from Age Zero by Shinichi Suzuki (Warner Brothers Music)

Amusing Ourselves to Death by Neil Postman (Viking Penguin, October 1986)

Crisis in Christian Music by Jack Wheaton (Hearthstone Publishing, 2000) Available from: Southwest Radio Church Ministries, 1-800-652-1144

The Mozart Effect by Don Campbell (William Morrow & Co., October 1997)

"Rock music: An ethical evaluation" (Andrew L. Minto) *Pastoral and Homiletic Review*, April 1990

Striving for Excellence (audiotape set), IBLP, Box One, Oak Brook, IL 60522

Rock-n-Roll Sorcerers of the New Age (videotape) American Portrait Films (216) 531-8600

Eric Barger Ministries (tapes and literature) P.O. Box 1485, Rowlett, TX 75088

A very extensive collection of summaries on music & academic performance, research, commentary
<http://www.edu-cyberpg.com/Music/musicsmart.html>

Musica: Music and Science Information Computer Archive -- <http://brahms.cnlm.uci.edu/>