The Impact of Music on Social-Emotional Development and Academic Success

A Research Summary In Support of Kindermusik's ABC Music & Me

Created by Kindermusik International
ABC Music & Me™

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Many organizations devoted to quality early childhood programs and school readiness have been vocal in recent years regarding the need to purposefully promote social and emotional development in children. Some official statements from those organizations include:

- "Social and emotional development is important both in its own right and because aspects of it facilitate cognitive development."
  —Policy Brief, National Institute for Early Education Research (NIEER)

- "A recurring theme in recent research syntheses has been that curriculum in programs for infants through the primary grades must be comprehensive, including attention to social and emotional competence and positive attitudes or approaches to learning."
  —Position Statement, National Association for the Education of Young Children (NAEYC) and National Association of Early Childhood Specialists in State Departments of Education (NAECS/SCD)

- "Attention to social and emotional development is essential in young children's school experience."
  —Position Statement, National Association of Early Childhood Teacher Educators (NAECTE)

- "Social and behavioral competence in young children predicts their academic performance in the first grade over and above their cognitive skills and family backgrounds."
  —Recommended Practices, Center for Evidence-Based Practice: Young Children with Challenging Behavior

- "Given the current knowledge base about child development and learning, it is time to discard debates about social-emotional versus cognitive development and which comes first or is more important. Clearly, children develop in both areas over the same period, and learning and development in one influences learning and development in the other."
  —Outcomes Framework, Head Start

This impressive list would seem to indicate a "case closed" mentality in regard to the need for heavy emphasis on social-emotional development in early childhood learning environments. However, in an era marked by accountability, proficiency standards, and academic readiness, many have been willing to dismiss social-emotional competence as unnecessary or to view it as being in competition with cognitive development. The debates on this issue have been persistent, as revealed by this statement in a social policy report from the Society for Research in Child Development: ". . . psychologists' and educators' emphasis on cognition and on children's academic preparedness continues to overshadow the importance of children's social and emotional development for early school readiness" (Raver, 2002).

The following summary reveals that scientific research provides evidence to bring an end to these debates. Links have been clearly shown between social-emotional competence in the early years and future academic success. Furthermore, a growing body of research confirms that teaching and learning across the curriculum areas can successfully embed social-emotional lessons, resulting in cognitive as well as social-emotional gains. Of particular interest are lessons in the arts. Nick Rabkin, Executive Director of the Center for Arts Policy at Columbia College, states it well: "The advantage of the arts is that they link cognitive growth to social and emotional development. Students care more deeply about what they study, they see the links between subjects and their lives, their thinking capacities grow, they work more diligently, and they learn from each other" (Rabkin & Redmond, 2005).

While this summary looks specifically at research showing the impact of music education on social-emotional development, it also focuses on an extremely critical area of social-emotional skills: self-regulation. The evidence is clear that this subset of skills is particularly important in early childhood and results in later academic success. Several of the music studies also link to self-regulation as an outcome. Standing out among these is one rigorous academic study focused on the Kindermusik approach, supporting it as effective in improving children's social-emotional development.

What we can conclude from all of this research is that music education holds the promise for multiple positive outcomes, a "domino effect" that includes social-emotional development and future academic success. Especially in early childhood classrooms, music can be the backbone supporting the whole child.

SOCIAL-EMOTIONAL DEVELOPMENT AND FUTURE ACADEMIC SUCCESS

Parents, educators, and employers have long known the importance of social-emotional competence in achieving success. However, for this assumption to have the authority leading to true commitments by schools, scientific proof of desired gains directly related to social-emotional training must be provided.

In 1994, one organization was formed specifically to provide this evidence. The Collaboration for Academic, Social, and Emotional Learning (CASEL), founded by Daniel Goleman (author of *Emotional Intelligence*) and Eileen Rockefeller Growald (educator/philanthropist), began with this self-described focus: ". . . gathering scientific evidence to demonstrate the contributions of social and emotional learning to students' school success, health, well-being, peer and family relationships, and citizenship" (CASEL, 2000-2008). Since 1994, CASEL has reviewed scientific evidence, conducted its own research, and gained a strong reputation for impeccable scholarship.

Among CASEL's many contributions to the field is a well-articulated definition of social-emotional learning (SEL) as ". . . the process of acquiring and effectively applying the knowledge, attitudes, and skills necessary to recognize and manage emotions; developing caring and concern for others; making responsible decisions; establishing positive relationships; and handling challenging situations capably" (Zins & Elias, 2006). As the link between social-emotional competence and academic success is proven, some researchers have even begun to apply a new term, "social, emotional, and academic learning" (SEAL), referencing the close link between these areas (Zins, Bloodworth, Weissberg & Walberg, 2004).

Let's turn to a review of the data. Research has repeatedly linked emotionally intelligent children to desirable academic outcomes (Feshbach & Feshbach, 1987; Wang, Haertel, Walberg, 1997; Miles & Stipek, 2006). In particular, social and emotional competence is strongly indicative of school readiness (La Paro & Pianta, 2000; McClelland, Morrison, Holmes, 2000; McWayne, Fantuzzo, McDermott, 2004; Peth-Pierce, 2001; Raver, 2002; Raver & Knitzer 2002; Teo, Carlson, Mathieu, Egeland, Sroufe, 1996). This link is so strong that the Surgeon General's office issued a report in 2001 stating that early intervention is critical for young children with social and emotional deficits (USDHHS, 2001).

So, if students so clearly benefit from social-emotional competence, do deliberate efforts to include SEL lead to increased academic success? A major new study spearheaded by CASEL, reported on but not released at the time this research summary went to press, answers with a resounding, "Yes!" The study's meta-analysis of 207 in-school SEL programs for more than 288,000 diverse students ages 5–18 revealed that the experimental students scored 11 percentile points higher on standardized achievement tests than their peers in control groups who were not included in the SEL programs (CASEL, 2007). One must conclude that programs promoting SEL certainly do not detract from academics; rather, such programs produce cognitive gains. Ongoing research is looking even more deeply at the gains—analyzing how SEL impacts the brain. For example, Richard J. Davidson, a professor at the University of Wisconsin-Madison, has documented brain circuitry changes in people who undergo training related to SEL (Viadero, 2007).

ZEROING IN ON EARLY CHILDHOOD AND SELF-REGULATION

Having established the importance of SEL, let us now turn to an analysis of which social-emotional skills are most critical to the future academic success of young children. Several studies point to the cluster of skills known as "self-regulation" as particularly important. Children who display self-regulation control their impulses, pay attention, work flexibly toward goals, and show ability to plan and organize their actions. For example, a self-regulated child can wait his or her turn in line without frustration, will resist blurting out answers when other children have been asked a question, and might be observed suggesting fair solutions to a playground problem.

A recent study by researchers at Pennsylvania State University revealed that the level of development in self-regulation of 3- to 5-year-olds correlated directly to emerging math and literacy skills (Blair & Raza, 2007). An Academy of Science committee produced a report concluding, in part, that "the growth of self-regulation is a cornerstone of early childhood development that cuts across all domains of behavior" (Shonkoff & Phillips, 2000). Similar findings from a National Institute of Health report led researchers to state that self-regulation is essential for school readiness (Huffman, Mehlinger, and Kerivan, 2000). Finally, studies of achievement test scores have shown positive correlations with preschoolers' self-regulation (National Institute of Child Health and Human Development Early Childcare Research Network, 2003; Howse, Lange, Farran, Boyles, 2003). Brain research has linked self-regulation to maturation of the prefrontal cortex area of the brain (Blair, 2002; Shonkoff & Phillips, 2000). Since maturation occurs during the preschool years, it follows that there is no better time to focus on self-regulation.

EARLY CHILDHOOD PROGRAMS THAT BUILD SELF-REGULATION

Although some programs have been developed solely to produce SEL outcomes, many practitioners feel that social-emotional competence can be built within existing lessons and classroom structures. For example, the Center for Evidence-Based Practice: Young Children with Challenging Behavior recommends that early childhood educators be taught "how to integrate social/emotional learning with literacy, language, and other curricular areas" (Smith). A research study examining one curriculum with SEL skills embedded throughout the regular school day revealed that 4- and 5-year-olds in the experimental groups showed significant gains in attention skills and other desirable behaviors over the students in the control group (Brigman, Lane, Switzer, Lane, Lawrence, 1999). This led researchers to conclude that integrating SEL into the regular curriculum leads to positive gains. Head Start designed its Outcomes

Framework so that indicators of social competence and school readiness are embedded throughout the domains (USDHHS, 2003). In recommending styles of SEL instructional approaches that have been designed to promote school achievement, Zins et al (2004) recommend infusing social-emotional skills into the academic curriculum as one proven method. In general, when SEL is embraced as part of daily school life, the need for intervention is lessened.

MUSIC PROGRAMS AS CONDUITS FOR SEL

As we look across the range of subjects present in preschool classrooms, music comes to the forefront as a natural means of promoting self-regulation. Perhaps without consciously realizing it, many early childhood educators use music during times when self-regulation is most needed. For example, many classrooms feature music during transition times, as familiar tunes seem to help children shift gears and do what is asked. During naptime, music helps children relax and slow their bodies and minds down.

Beyond such practical applications, research is showing that music instruction in the classroom, more than just music inclusion, has a positive impact on children's self-regulation. Scott focused on the aspects of attention and perseverance in a 1992 study of preschoolers. This research showed that participation in music lessons led to significant achievement in these measures of self-regulation as compared to the achievements of students participating in movement classes, preschool without music instruction, or no preschool at all (Scott, 1992). Another study conducted with Head Start preschoolers taking part in a creative dance and movement program revealed positive effects on the children's social competence and behavior, including self-regulation skills (Lobo & Winsler, 2006). The authors of this study state: "It is important to note that music was a very important element of the dance program. . . ." Thereafter, they link music to self-regulation. A publication of the Arts Education Partnership, in summarizing a body of research devoted to the exploration of "the use of music as a tool for social-emotional development and behavior modification in schools" affirms "several striking indications of positive effects" on both academic performance and behavior (Deasy, 2002).

KINDERMUSIK PROVEN TO IMPROVE SELF-REGULATION

A scientific study has demonstrated positive effects of Kindermusik on the self-regulation of young children (Ducenne, 2005). This researcher selected Kindermusik as the focus of her research due to the curriculum's inclusion of songs and activities that require systematic changes in child behavior. For example, Kindermusik classes include activities set to music that ask children

to stop and go, to speed up movement or slow down, or to sing loudly and softly. Kindermusik is a structured music and movement program which incorporates developmentally appropriate activities that encourage the development of self-regulation.

In this study, ninety-one children between the ages of 3 and 4 were classified into three groups:

1) currently enrolled in Kindermusik classes;

2) previously, but not currently, enrolled in Kindermusik classes;

3) never enrolled in Kindermusik classes.

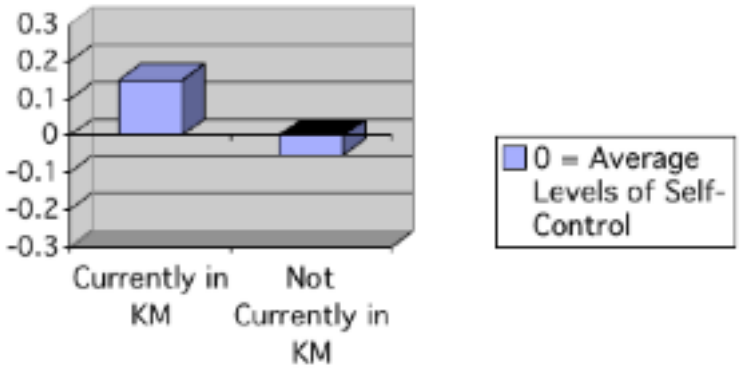
The researcher wanted to answer the question: Do children who have been exposed to greater amounts of musical experiences show higher levels of self-regulation compared to children who have lower levels of musical experience?

To answer this question, the researcher used a battery of age-appropriate tasks developed by academics (Kochanska et al, 1996 and 2000) requiring that children employ self-regulation. For example:

- Snack Delay Task: Could a child wait patiently for a desired snack until given the cue to get it?
- Telephone Poles and Walk-a-Line Tasks: Could a child draw lines slowly or walk down a path slowly when so instructed?
- Lowering Voice Task: Was a child able to whisper (rather than speak or shout) the name of a beloved cartoon character when given a picture cue?
- Gift-in-a-Bag Task: How often does a child peek when instructed not to look at the researcher wrapping a surprise gift for the child?

Children were observed and videotaped as they completed these and other tasks, and their performances were rated.

When the results were calculated, the researchers found that those children currently enrolled in Kindermusik showed significantly higher levels of self-regulation than those in the other two groups. As the chart below shows, the spread on composite self-regulation scores was from +0.1483 (for children currently enrolled in Kindermusik) to -0.0517 (for children in the other two groups). The finding was statistically significant ($p<.05$), showing that children currently enrolled in Kindermusik classes demonstrated better self-regulation than those who were not currently enrolled.



The researcher concluded that "Musical experience in the form of Kindermusik is linked with increased behavioral self-regulation in young children" (Ducenne, 2005). This study provides scientific support for educators who wish to implement ABC Music & Me or other Kindermusik programs in their classrooms, suggesting that young children should make positive gains in important self-regulation skills.

SUMMARY

A solid body of scientific evidence shows that SEL in early childhood is linked to later academic success. A "stand-alone" program for social-emotional development is not necessary. Instead, SEL can be incorporated across the curriculum and integrated with existing programs. Educators who wish to integrate SEL objectives into their classrooms would be wise to implement Kindermusik's *ABC Music & Me* program, which is based on a methodology proven to lead to greater self-regulation in young children.

BIBLIOGRAPHY

Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist*, 57: 111–127.

Blair, C. & Razza, R.P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development*, 78(2), 647–663.

Brigman, G., Lane, D., Switzer, D., Lane, D., Lawrence, R. (1999). Teaching children school success skills. *Journal of Education Research*, 92: 323–329.

Boyd, J., Barnett, W.S., Bodrova, E., Leong, D.J., Gomby, D. (2005). *Promoting children's social and emotional development through preschool education.* Preschool policy brief for the National Institute for Early Education Research. New Brunswick, NJ: NIEER.

Collaborative for Academic, Social, and Emotional Learning (2000-2008). *About CASEL.* Retrieved from http://www.casel.org.

Collaborative for Academic, Social, and Emotional Learning (2007). *The benefits of school-based social and emotional learning programs: Highlights from a forthcoming CASEL report.* CASEL update. Retrieved from http://www.casel.org.

Deasy, R. J. (2002). *Critical Links: Learning in the Arts and Student Academic and Social Development.* Washington, D.C.: Arts Education Partnership.

Ducenne, L. (2005). "The Role of Age, Music, and Parenting on Children's Compliance and Self-Regulation." Unpublished Thesis, George Mason University.

Duncan, G.J., Claessens, A., Huston, A.C., Pagani, L.S., Engel, M., Sexton, H., Dowsett, C.J., Magnuson, K., Klebanov, P., Feinstein, L., Brooks-Gunn, J., Duckworth, K., Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, 43(6): 1428-1446.

Eisenberg, N., Sadovsky, A., Spinrad, T. (2005). Associations of emotion-related regulation with language skills, emotion knowledge, and academic outcomes. *New Directions for Child and Adolescent Development*, 109: 109–118.

Fantuzzo, J., McWayne, C., Bulotsky-Shearer, R., Frye, D., McDermott, P., Perlman, S. (2007). Investigation of dimensions of social-emotional classroom behavior and school readiness for low-income urban preschool children. *School Psychology Review*, 36(1): 44–62.

Feshbach, N.D. & Feshbach, S. (1987). Affective processes and academic achievement. *Child Development*, 58: 1335–1347.

Howse, R.B., Lange, G., Farran, D.C., Boyles, C.D. (2003). Motivation and self-regulation as predictors of achievement in economically disadvantaged young children. *Journal of Experimental Education*, 71: 151–174.

Huffman, L.C., Mehlinger, S.L., Kerivan, A.S. (2000). *Risk factors for academic and behavioral problems at the beginning of school*. Bethesda, MD: National Institute of Mental Health.

Kochanska, G., Murray, K., Jacques, T. T., Koenig, A.L., & Vandegeest, K. A. (1996). Inhibitory control in young children and its role in emerging internalization. *Child Development*, 67, 490-507.

Kochancka, G., Murray, K. T., & Harlan, E. T. (2000). Effortful control in early childhood: Continuity and change, antecedents and implications for social development. *Developmental Psychology*, 36, 220-232.

La Paro, K.M. & Pianta, R.C. (2000). Teachers' reported transition practices for children transitioning into kindergarten and first grade. *Exceptional Children*, 67(1): 7–20.

Leerkes, E.M., Paradise, M.J., O'Brien, M., Calkins, S.D., Lange, G. (2008). Emotion and cognition processes in preschool children. *Merrill-Palmer Quarterly*, 54 (1): 102–124.

Lobo, Y.B. & Winsler, A. (2006). The effects of a creative dance and movement program on the social competence of Head Start preschoolers. *Social Development*, 15(3): 501–519.

McClelland, M.M., Morrison, F.J., Holmes, D.L. (2000). Children at risk for early academic problems: The role of learning related social skills. *Early Childhood Research Quarterly*, 15, 307–329.

McWayne, C.M., Fantuzzo, J.W., McDermott, P.A. (2004). Preschool competency in context: An investigation of the unique contribution of child competencies to early academic success. *Developmental Psychology*, 40, 633–645.

Miles, S.B. & Stipek, D. (2006). Contemporaneous and longitudinal associations between social behavior and literacy achievement in a sample of low income elementary school children. *Child Development*, 77: 103–177.

National Association of Early Childhood Teacher Educators (2008). *Early childhood certification for teachers of children 8 years old and younger in public school settings.* Position statement. Retrieved from http://www.naecte.org.

National Association for the Education of Young Children and National Association of Early Childhood Specialists in State Departments of Education (2003). *Early childhood curriculum, assessment, and program evaluation*. Position statement with expanded resources. Washington, DC: NAEYC.

National Institute of Child Health and Human Development Early Child Care Research Network (2003). Do children's attention processes mediate the link between family predictors and school readiness? *Developmental Psychology*, 39: 581–593.

National Scientific Council on the Developing Child (2006). *Connections Between Literacy and Social Behavior*. Science Brief. Retrieved from http://www.developingchild.net.

O'Connell, D.S. (2006). The impact of music education on aspects of the child's self. Part of the research initiative, *Sounds of Learning: The Impact of Music Education*. Carlsbad, CA: International Foundation for Music Research. Retrieved from http://seinforms.org/mus/SoundsOfLearning.

Peth-Pierce, R. (2001) A good beginning: Sending America's children to school with the social and emotional competence they need to succeed. Monograph based on two papers commissioned by the Child Mental Health Foundations and Agencies Network (FAN). Chapel Hill: University of North Carolina.

Raver, C.C. (2002) Emotions matter: Making the case for the role of young children's emotional development for early school readiness. *SCRD Social Policy Report* 16 (30. Ann Arbor, MI: Society for Research in Child Development.

Raver, C.C. & Knitzer, J. (2002). *Ready to enter: What research tells policymakers about strategies to promote social and emotional school readiness among three- and four-year-old children.* New York: National Center for Children in Poverty, Mailman School of Public Health, Columbia University.

Rabkin, N. & Redmond, R. (2005) The art of education success. *Washington Post*, January 8, 2005, A19.

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.

Shonkoff, J.P. & Phillips, D.A. (Eds.) (2000). *From Neurons to Neighborhoods: The science of early childhood development.* Washington, DC: National Academy Press.

Smith, B.J. (2005). *Linking social development and behavior to school readiness.* Recommended practices paper for Center for Evidence-Based Practice: Young Children with Challenging Behavior. Retrieved from http://www.challengingbehavior.org.

Teo, A., Carlson, E., Mathieu, P.J., Egeland, B., Srofe, L.A. (1996). A prospective longitudinal study of psychosocial predictors of achievement. *Journal of School Psychology*, 34, 285–306.

U.S. Department of Health and Human Services (2001). *Report of the Surgeon General's Conference on Children's Mental Health: A National Action Agenda.* Washington, DC: USD-HHS.

U.S. Department of Health and Human Services (2003). *Head Start child outcomes framework: Domain 6, social & emotional development.* Retrieved from http://www.headstartinfo.org.

Viadero, Debra (2007). Social-skills programs found to yield gains in academic subjects. *Education Week*, 27(16).

Wang, M.C., Haertel, G.D., Walberg, H.J. (1993). Toward a knowledge base for school learning. *Review of Educational Research*, 63, 249–294.

Zins, J.E., Bloodworth, M.R., Weissberg, R.P., Walberg, H. J. (2004). The scientific base linking social and emotional learning to school success. In J.E. Zins, R.P. Weissberg, M. Wang, H.J. Walberg (Eds,), *Building Academic Success on Social and Emotional Learning: What the Research Says.* New York: Teachers College Press.

Zins, J.E. & Elias, M.E. (2006). Social and emotional learning. In G.G. Bear & K.M. Minke (Eds.), *Children's Needs III* (1–13). Bethesda, MD: National Association of School Psychologists.