

# Biomedical/Education Update:

## 'Mood music' reduces tantrums, self-injury

A child in a good mood usually behaves better than a child in a bad mood. Thus, teachers often put students in a good frame of mind with exercises such as, "think of something happy," or "imagine a place that makes you feel good." Retarded or autistic students, however, can have difficulty with activities requiring abstract thinking. But new research by V. Mark Durand and Eileen Mapstone suggests that more concrete mood-altering techniques can improve the behavior, and reduce the aggression and self-injury, of these students.

Noting that music can alter moods, Durand and Mapstone tested the effects of "fast beat" music (for instance, the overture from "Rocky II") and "slow beat" music (Chopin's "Marche Funebre" and similar selections) on three severely or profoundly retarded subjects. One subject was a seven-year-old child, while the other two were adults. First, the researchers identified situations in which subjects were most likely to throw tantrums, become aggressive, and/or exhibit self-injury, and measured levels of aberrant behavior during these conditions. They then re-created these situations, accompanied either by the slow music selection or by the fast music.

According to Durand and Mapstone, "All three participants experienced a decrease in their rates of challenging behavior during the condition when fast beat music was added." Interestingly, they say, "For all of them, the slow beat music condition was associated with higher rates of challenging behavior compared to the fast beat music condition, and for two of the three, the slow beat music was associated with higher rates of challenging behavior compared to baseline." An analysis of the subjects' expressions during the experiment appeared to confirm that they felt negative emotions during the slow music, and more positive emotions during the fast selections.

Durand and Mapstone conclude that fast music, or other mood-elevating techniques, may be effective and simple methods of reducing aberrant behavior. In their study, they say, the effectiveness of the fast music in reducing one subject's screaming was so marked that the girl's teachers incorporated music into her treatment plan. "They found that they were

able to introduce tasks to [her] that she previously refused to complete," the researchers say, "just by introducing some fast beat music prior to the more difficult portions."

"Influence of 'mood-inducing' music on challenging behavior," V. Mark Durand and Eileen Mapstone, *Am. Journal on Mental Retardation*, Vol. 102, No. 4, 1998, pp. 367-378. Address: V. Mark Durand, Dept. of Psychology, Univ. at Albany, SUNY, Albany, NY 12222.

## Prenatal exposure to seizure drug or alcohol may increase autism risk

Children of pregnant women who take valproic acid, an anticonvulsant, have an increased risk of being born with developmental delays, organ malformations, and craniofacial abnormalities. According to P. Gail Williams and Joseph Hersh, they may also be at increased risk for autism.

Williams and Hersh recently reported on a five-year-old boy with "valproate syndrome" and autism, noting that "no other identifiable risk factors responsible for the development of autism were evident" from the child's history. In light of a similar case reported in 1994, the physicians suggest that "a relation between this known teratogen and autism may exist."

In related research, Marita Aronson and colleagues report that alcohol exposure in utero, already known to increase the risk of retardation, may also cause the risk of autism. Of 24 alcohol-exposed children followed through age 11 to 14, Aronson et al. say, two had Asperger syndrome (a variant of high-functioning autism) and one had autistic-like symptoms. In addition, 10 were hyperactive and had attention deficits.

Recently (see ARRI 11/3) Patricia Rodier and colleagues linked another toxin, the drug thalidomide, to autism. The researchers found that one-third of children exposed to the drug during the 20th to 24th days of gestation were later diagnosed as autistic.

"A male with fetal valproate syndrome and autism," P. Gail Williams and Joseph H. Hersh; *Developmental Medicine & Child Neurology*, Vol. 39, 1997, 632-634. Address: P. Gail Williams, University of Louisville School of Medicine, Child Evaluation Center, 571 South Floyd Street, Suite 100, Louisville, KY 40202-3828.

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"Attention deficits and autistic spectrum problems in children exposed to alcohol during gestation: a follow-up study," Marita Aronson, Bibbi Hagberg, and Christopher Gillberg; *Developmental Medicine & Child Neurology*, Vol. 39, 1997, pp. 583-587. Address: Marita Aronson, Department of Pediatrics, Sahlgren University Hospital, Goteborg, Sweden.

## Special education placements: 'common sense' prevailing?

Since the 1980s, the educational establishments of the United States and Canada have pushed for autistic and other disabled children to be "fully included"—that is, placed in regular education classes. However, a new study by Linda Eaves and Helena Ho suggests that "common sense [has] prevailed" and that autistic children are being placed according to their needs, "regardless of the drive to 'normalize.'"

Eaves and Ho evaluated the school placement and achievement of 76 Canadian children (ages 8 to 17) with autism or autistic-spectrum disorders. Of these children, they found, 35% remained in special classes, while 38% were in regular classes with aides, and 16% were in regular classes without aides. Age, IQ, and severity of autism all were factors in placement selection, with "younger, brighter, higher functioning individuals with milder autism... much more likely to be in regular class placements than the more severely impaired."

The researchers conclude that for mildly autistic, high-functioning students, full inclusion can be a moderately effective approach. Twenty-five percent of the included students were at least average academically, according to their teachers. However, teachers noted that only about 10% were average in skills such as "working independently, completing tasks, and paying attention." In addition, teachers reported that autistic students exhibited high levels of hyperactivity.

Although a primary goal of inclusion is to allow disabled children to make non-disabled friends, Eaves and Ho say that "from the teachers' view, that was not occurring at a very high level." They found that only 17% of the autistic children had average social relationships with peers, and said that "whether these are real 'friendships' is not clear" because only five percent of parents reported that their children had "peer friends."

The researchers say the range of placements seen in this group of autistic students, in the face of strong pressures for full inclusion "reinforces the notion that a range of educational opportunities must be available to meet the range of abilities and needs of people with autism."

"School placement and academic achievement in children with autistic spectrum disorders," Linda Eaves and Helena Ho, *Journal of Developmental and Physical Disabilities*, Vol. 9, No. 4, 1997, pp. 277-291. Address: Linda Eaves, Sunny Hill Health Centre for Children, 3644 Slocan St., Vancouver B.C., Canada V5M-3E8.

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