

Educational/Biomedical Update:

Exercise and behavior: no pain, no gain

A Canadian study indicates that vigorous exercise reduces autistic children's stereotypic behaviors, at least temporarily, while mild exercise has no effect.

Leslie Levinson and Greg Reid compared the effects of a 15-minute walking program and a 15-minute jogging program on the behavior of three autistic 11-year-olds, and found that stereotyped behaviors diminished for about 90 minutes following jogging, but not walking. The greatest decreases were seen in motor stereotypies (body rocking, biting, hand flapping, hitting, etc.)

Levinson and Reid say their study supports the argument that "stereotypic behaviors were maintained by the sensory feedback produced and that they might be eliminated or replaced by activity that produced similar sensory consequences." They suggest studying the effects of exercise programs closely resembling individual children's stereotyped behavior patterns.

"The effects of exercise intensity on the stereotypic behaviors of individuals with autism," Leslie Levinson and Greg Reid; *Adapted Physical Activity Quarterly*, 10, 1993, pp. 255-268. Address: Greg Reid, Department of Physical Education, McGill University, 375 Pine Ave. West, Montreal, PQ, Canada H2W 1S4.

Errorless training: teaching compliance

"Errorless training" is an effective method of teaching developmentally delayed children to comply with their parents' requests, according to a new study by Joseph Ducharme and Michele Popynick.

The "errorless training" approach starts by teaching very simple tasks that a child can master easily, and very gradually introducing harder tasks. Ducharme and Popynick note that the procedure "has the advantage of allowing...training to occur without any initial exposure of the child to high demand situations that have been shown to produce high rates of maladaptive behavior in some individuals."

The researchers worked with four retarded children selected because of aggression, tantrums, and severe non-compliance with parental requests. They evaluated the children's initial responses to typical requests (e.g., "comb your hair" or "throw the ball"), and developed four categories of requests for each child ranging from Level 1 (requests almost always obeyed) to Level 4 (requests rarely or never obeyed).

Parents, who served as instructors, were instructed to present requests in a polite but firm voice, and to avoid repeating requests. Praise and/or hugs were used as reinforcers for correct responses, while inappropriate responses were ignored.

At first, parents made requests only from the Level 1 ("easy") list. Gradually, higher

levels were introduced. In the transition period between each level, parents presented requests from both the previously learned level and the higher level of requests.

The researchers report that the treatment resulted in dramatic improvement in the children's response to parental requests. For instance, the children responded to the difficult Level 4 requests only 16% of the time before treatment, but responded correctly 86% of the time during treatment. In addition, maladaptive behaviors such as tantrums and aggression dropped markedly. In some cases the children also began responding correctly to untrained requests, indicating some generalization of their newly learned skills. A follow-up several months later showed that the children had maintained their high level of responsiveness to requests.

"Errorless compliance to parental requests: treatment effects and generalization," Joseph M. Ducharme and Michele Popynick; *Behavior Therapy*, 24, 1993, pp. 209-226. Address: Joe Ducharme, Behav. Science Research and Educ. Div., Surrey Place Centre, 2 Surrey Place, Toronto, Ontario, Canada, M5S 2C2.

Lead/autism link

A Canadian newspaper recently published an anecdotal report of two twin boys whose autistic symptoms and hyperactivity virtually disappeared after they were treated for lead poisoning. Vancouver physician Ziguris Strauts administered chelation therapy to the boys after finding that their lead levels were three times normal. His suspicions were aroused, the boys' mother reported, by the fact that both children exhibited autistic behaviors—an unusual finding in non-identical twins.

"Lead poisoning affects twins," *North Shore News*, September 12, 1993.

F/C Misuse Support Groups

ARRI has received a number of requests to re-publish the following information regarding support groups for those injured by improper use of Facilitated Communication. Parents, teachers and others falsely accused of sexual or other abuse can contact:

- Larry and Martha Esparza, 408-223-8350
- Sam and Cecilia Johnson, 404-973-4045
- Mark and Laura Storch, 914-657-7127.

Facilitators and former facilitators who learned they were the source of F/C messages also have formed a support group. Interested persons can contact:

- Marian Pitsas, 518-370-7438, O.D. Heck Developmental Center, Balltown and Consaul Roads, Schenectady, NY 12304.

"Pivotal" behaviors and social skills

Can changing a few selected autistic behaviors cause broad improvement in many autistic symptoms? In the case of social skills the answer may be yes, according to a new study by Robert Koegel and William Frea.

Koegel and colleagues have spent several years attempting to identify what they call "pivotal" behaviors: behaviors that, when changed, will cause changes in larger, related clusters of autistic symptoms. Their new study involved two autistic teens who, although high-functioning, exhibited a wide range of social problems.

The researchers worked on only one social behavior (appropriate perseveration of topic) with the first subject, and on two behaviors (eye contact and nonverbal gestures) with the second subject. They then measured the effects of training on other social behaviors.

Treatment consisted of:

—teaching each child to differentiate appropriate from inappropriate behavior, by having the clinician model the behavior and having the children first imitate and then identify appropriate vs. inappropriate behavior.

—giving each child a digital watch with an alarm, and instructing the children to give themselves checkmarks each time the alarm went off if they had exhibited only correct behavior during the time period.

—rewarding the children with quarters for video games after a specified number of checkmarks was earned. At first, each child received a quarter after receiving one checkmark for one minute of appropriate behavior; gradually, the intervals between alarms, and the number of checkmarks needed to earn a reward, were increased.

According to the researchers, the children rapidly improved in the selected skills, and even more importantly, "generalization to the untreated behaviors occurred for both children." Before training, the conversational interactions of both subjects were rated as "very inappropriate" by observers unaware of the study's purpose; afterward, the same observers rated the subjects' conversation as nearly normal.

The researchers speculate that children with autism may exhibit strange social behavior in order to avoid difficult social situations, and say that "in this case, interventions that simplify conversational exchanges, such as the one used in the present investigation, should have a broad impact on social behavior."

"Treatment of social behavior in autism through the modification of pivotal social skills," Robert L. Koegel and William D. Frea; *Journal of Applied Behavior Analysis*, 26, No. 3, Fall 1993, pp. 369-377. Address: Robert Koegel, Counseling/Clinical/School Psychology Program, Graduate School of Education, University of California, Santa Barbara, CA 93106-9490.