

Biomedical/Education Update:

Video modeling teaches perspective-taking

Video modeling can help autistic children understand the perspective of another person, according to a recent study. Autistic children generally are severely impaired in this ability, because they have difficulty understanding that other people have inner thoughts and feelings.

Marjorie Charlop-Christy and Sabrina Daneshvar employed the video modeling technique with three autistic boys (two six-year-olds and a nine-year-old), using five different perspective-taking tasks. The researchers presented the children with non-video versions of the tasks, introducing the video-modeling versions one at a time.

In the video modeling sessions, the children watched characters act out the same scenarios, but with more explanatory dialogue. In one task, for instance, one character places a piece of pizza in the cupboard to eat later; after he leaves, another character removes the pizza and throws it away. The children are asked questions about where the first character will think the pizza is when he returns. In the video version, after the first person leaves the room, a second person asks, "Where did [the first person] hide the pizza?" and another participant says, "The cupboard!" The second person then says, "Let's move the pizza so [the first person] can't find it!" They act out throwing the pizza into the trashcan, after which the first person returns and looks for the pizza. The second person notes, "[He] didn't see us move his pizza. Where does he think it is?" The other observer says, "The cupboard." They then comment that the pizza is in the trashcan, and not in the cupboard where the first person left it.

The researchers introduced the videos of the tasks one at a time, testing to see if the children could answer questions about the characters' thoughts or beliefs (e.g., "Where will he look for the pizza?"). Meanwhile, they continued to test the children on the other tasks that had not yet been introduced in video form.

Charlop-Christy and Daneshvar say that none of the children were able to successfully complete a perspective-taking task administered before the study began. When the video training was introduced, one of the children mastered all of the five perspective tests after only a few viewings of the videos. The second child required more viewings, but also completed all of the tasks successfully. The third child was only able to pass three of the tests. The two children who passed all of the tests after video training also were able to

generalize their new knowledge to other settings.

"The present results," the researchers say, "contribute to a growing literature that states that perspective-taking can be taught to children with autism." They note that the advantages of video modeling include the ability to focus on relevant stimuli; the reinforcing nature of watching videos; and the ease of using different models and situations to increase the opportunity for generalization to other settings and people.

"Using video modeling to teach perspective-taking to children with autism," Marjorie H. Charlop-Christy and Sabrina Daneshvar, *Journal of Positive Behavior Interventions*, Vol. 5, No. 1, Winter 2003, 12-21. Address: Marjorie H. Charlop-Christy, Psychology Department, P-6, 850 Columbia, Claremont McKenna College, Claremont, CA 91711, marjorie.charlop-christy@mckenna.edu.

Warning issued: drug can cause psychosis

The Food and Drug Administration (FDA) has issued a new warning regarding over-the-counter products containing diphenhydramine citrate or diphenhydramine hydrochloride. These products include Benadryl, some Nytol and Tylenol products, Excedrin PM analgesic sleeping aid, Extra-Strength Bayer PM, some Actifed products, several topical skin creams, and other medications.

The new warning is based on reports that diphenhydramine can cause toxic psychosis, especially in children, and on the FDA's concern that such incidents are under-identified as there is no requirement to report them. The warning is already included voluntarily by several manufacturers, but the December 2002 ruling makes it mandatory.

The FDA warning cautions consumers not to use any oral diphenhydramine products with other products containing diphenhydramine, including skin creams. It also warns against using skin products containing diphenhydramine on skin that is broken, blistered, or oozing; using excess amounts of such creams; or using them on wide areas of the body.

Symptoms reported in children suffering adverse reactions to diphenhydramine include hallucinations, muscular incoordination, dilated pupils, flushing, and difficulty in urinating.

"Labeling of diphenhydramine-containing drug products for over-the-counter human use," *Federal Register*, Vol. 67, No. 235, December 6, 2002, 72555-72559.

Nutrients can counter anticonvulsant effect on cardiovascular system

Approximately one third of children with autism spectrum disorders develop seizures, and many take anticonvulsant drugs for years or even decades. A new study indicates that these children may be at risk for early atherosclerotic vascular disease as a result of these drugs' effects, but also offers a solution for the problem.

Previous research has indicated that anticonvulsants can raise blood levels of homocysteine, an amino acid that can damage blood vessels. Leyla Tumer and colleagues in Turkey measured levels of homocysteine in 111 epileptic children who had taken anticonvulsant drugs for more than 12 months, matching them to 46 non-epileptic children. The researchers report that the children on long-term anticonvulsant therapy had significantly higher homocysteine levels, and that 28.8 percent of the epileptic children had elevated lipoprotein (a) concentrations—a risk factor for early atherosclerosis—compared to none of the controls.

The researchers also found a significant inverse relationship between homocysteine levels and the levels of two nutrients, vitamin B12 and folate. These two nutrients, along with vitamin B6, are routinely given to reduce dangerously high homocysteine levels.

The researchers suggest that children undergoing prolonged treatment with anticonvulsants receive regular testing of their homocysteine and lipoprotein (a) levels, so that treatment can be implemented if necessary.

"Plasma homocysteine and lipoprotein (a) levels as risk factors for atherosclerotic vascular disease in epileptic children taking anticonvulsants," L. Tumer, A. Serdaroglu, A. Hasanoglu, G. Biberoglu, and E. Aksoy, *Acta Paediatrica*, Vol. 91, No. 9, 2002, 923-6. Address: Leyla Tumer, Gazi University, Faculty of Medicine, Department of Pediatric Metabolism and Nutrition, Ankara, Turkey, tumerleyla@hotmail.com.

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