Correcting Vision Boosts Preschooler Test Results

BY DOUG BRUNK
San Diego Bureau

Preschoolers with uncorrected vision problems performed at lower than normal levels on visual-motor function tests that are indicative of success in school performance, but their scores on those tests improved within 6 weeks of receiving prescription glasses to correct their vision, results from a controlled study demonstrated.

The study, conducted by researchers from the University of California, San Diego, followed 70 children (aged 3-5 years) from low-income families who were seen by providers on the university's mobile eye clinic, which serves preschoolers who attend federally funded Head Start programs and the state-funded San Diego Unified School District.

At baseline, 35 children had normal vision and 35 had ametropia (farsightedness, nearsightedness, or astigmatism). All of them took two standardized tests that relate directly to future school performance: the Beery-Buktenica Developmental Test of Visual-Motor Integration (VMI), a nonverbal test for children aged 3-7 years that requires them to copy 18 large geometric figures in a sequence of increasing difficulty, and the Wechsler Preschool and Primary Scale of Intelligence–Revised (WPPSI-R), which contains a performance scale that has six subtests involving visual-motor skills, spatial analysis, visual perception, and planning, and a verbal scale that involves six subtests of verbal abilities.

After baseline testing, children in the ametropia group received prescription glasses to correct their vision. The researchers repeated the VMI and the WPPSI-R 6 weeks later in all 70 study participants (Arch. Ophthalmol. 2008;126:252-8).

At baseline, children in the ametropia group scored significantly lower on the two tests, compared with the normal-vision group. After 6 weeks of vision correction, children in the ametropia group had significant improvements on the VMI, compared with the normal-vision group.

Children in the ametropia group improved on WPPSI-R scores at 6 weeks, but those scores did not differ significantly from those in the normal-vision group. The researchers speculate that the WPPSI-R may be less sensitive to visual-motor integration skills than the VMI. They are currently following the children to see if their WPPSI-R scores change further over time.

The results suggest early identification and correction of ametropia "should optimize cognitive development and learning, at least in the [low-income] studied sample," said the authors, who were led by Dr. Stuart I. Brown of the university's department of ophthalmology.

The study was supported in part by the Foster Fellowship in Vision and Development and Research to Prevent Blindness. The authors had no relevant conflicts of interest to disclose. ■

Minimal, Recreational Ecstasy Use Linked to Cognitive Deficits

BY BRUCE JANCIN
Denver Bureau

Vienna — Even a few low doses of the drug ecstasy were associated with a decline in verbal memory function in a unique prospective study of first-time users, Thelma Schilt said at the annual congress of the European College of Neuropsychopharmacology.

Ecstasy (3,4-methylenedioxymethamphetamine), also known as MDMA, is an inexpensive illicit recreational drug that is popular in the club/rave scene. Users report feelings of happiness and connection to others. Animal studies suggest that ecstasy is neurotoxic, producing long-term damage to the distal axons of serotonergic neurons.

'The changes are small. You would not notice it in everyday life that their memory had declined.'

MS. SCHILT

Cognitive deficits have been documented in recreational users. However, such studies have either been cross-sectional or retrospective, and have mostly involved heavy users of ecstasy and multiple other potentially confounding drugs, including cocaine, alcohol, cannabis, and amphetamines.

For this reason, Ms. Schilt and her coinvestigators performed a prospective observational cohort study in 188 ecstasy-naive subjects as part of the larger Netherlands XTC Toxicity Study.

Participants, whose mean age was 22 years, were recruited at places such as dance clubs and university campuses. They had to indicate an interest in trying ecstasy in the future, have a history of only minimal exposure to other recreational drugs, and undergo baseline neuro-psychologic testing and brain imaging studies.

During 11 months of follow-up, 58 subjects took ecstasy. Their usage was modest: a mean cumulative dose of 3.2 tablets and a median of 1.5. They underwent neuropsychologic testing roughly 12 weeks after their most recent use of the drug, as did a matched group of 60 subjects who remained persistently ecstasy naive. They were queried about drug use during follow-up, and underwent drug screening to validate their self-reported minimal use of other drugs.

At baseline, the two groups had similar neuropsychologic test scores. However, at follow-up, the ecstasy users had significantly lower scores on immediate and delayed verbal recall and verbal recognition. Other cognitive domains were unaffected.

"The changes are small. You would not notice in everyday life that their memory had declined," Ms. Schilt stressed.

Nonetheless, the test results suggest even a low cumulative dose of ecstasy could be neurotoxic. Further follow-up will show whether the deficits remain after longer periods of abstinence. Also worthy of further study is the possibility that ecstasy accelerates the decline in verbal memory that's part of the normal aging process. Answers to these questions will have a bearing on ongoing clinical studies exploring the use of MDMA to facilitate psychotherapy, she continued.

The Netherlands XTC Toxicity Study is funded by the Netherlands Organization for Health Research and Development. ■

Unhealthy Behaviors in Teens Associated With Bedroom TVs

BY NANCY WALSH
New York Bureau

Adolescents who had televisions in their bedrooms had less physical activity, poorer dietary habits, and worse school performance than did adolescents without bedroom televisions, reported investigators from the University of Minnesota School of Public Health, Minneapolis.

Daheia J. Barr-Anderson, Ph.D., and colleagues found that nearly two-thirds of adolescents aged 15-18 years had a television (TV) in their bedrooms, even though the American Academy of Pediatrics recommends against this.

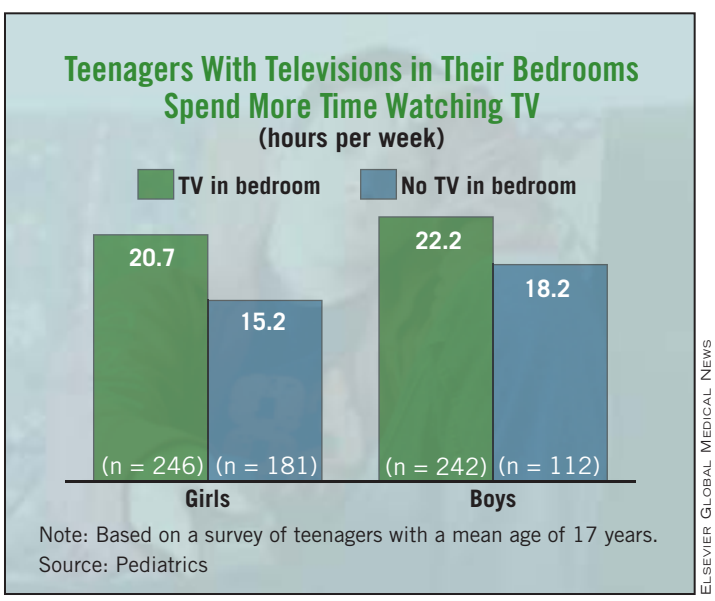
A total of 781 ethnically and socioeconomically diverse teens participated in Project Eating Among Teens (EAT), answering questions about their TV viewing, dietary and exercise habits, and school performance.

Analysis of the data revealed that factors associated with the presence of a bedroom TV included gender, race/ethnicity, and socioeconomic status. The prevalence of a TV in the bedroom among boys was 68%, compared with 58% among girls, and was highest among black youths at 82%, and lowest among Asians at 39%. Among those from households with highest socioeconomic status, the prevalence was 39%, compared with 61% among those from households with low socioeconomic status (Pediatrics 2008;121:718-24).

Girls with bedroom TVs spent less time in vigorous activity (4.2 hours/week vs 5.2 hours/week, spent more time watching TV (20.7 hours/week vs. 15.2 hours/week), and had lower vegetable intake (1.7 servings/day vs. 2 servings/day) and higher sweetened beverage consumption (1.2 servings/day vs. 1 serving/day) than did girls without bedroom TVs. They also participated in fewer family meals (2.9/week vs. 3.7/week).

Boys with bedroom TVs spent more time overall watching TV (22.2 hours/week vs. 18.2 hours/week), had lower fruit intake (1.7 servings/day vs. 2.2 servings/day), and participated in fewer family meals than did those without TVs (2.9/week vs. 3.6/week). They also had lower grade point averages (2.6 compared to 2.9). These differences were all statistically significant.

The researchers expressed concern about low levels of physical activity in girls, who tend to become less active in adolescence, and about lower grade point averages in boys, who tend to spend less time reading and doing homework than their female peers. "Refraining from placing a TV in adolescents' bedrooms may be a first step in helping to decrease screen time and subsequent poor behaviors associated with increased TV watching," they wrote. ■



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Girls with bedroom TVs were less physically active and had lower vegetable intake than girls with no TV.