accessories such as tee shirts and dress styles. There may be a causal link between school performance and music preference. A heavy involvement in rock music by low achievers may be an adaptive reaction to their failures as students and an expression of their alienation from school and the learning experience. Successful students exhibit a preference for mainstreamed music, less interest in punk and rock music, and less involvement in peer groups. Parent's groups have characterized many rock lyrics as sexually explicit and violent, some even advocating suicide. Heavy metal music glorifies hatred, abuse, sexual deviancy, and occasionally satanism. An adult's interpretation of rock lyrics might be entirely different from that of a teenager. Physicians can encourage parents to question their children about their interpretation of the music and what role it plays in their lives. The physician may also point out that so far there is no confirmation that this music has a deleterious effect on the behavior of adolescents. (Brown EF, Hende WR. Adolescents and their music. Insights into the health of adolescents. JAMA September 22/29, 1989; 262:1659-1663).

> COMMENT. It is apparent that theories regarding the influence of music on the behavior of adolescents are mainly conjectural and unproven. An adverse effect of this music not mentioned in this article is the incidence of nerve deafness. The inattention to the environment caused by the wearing of earphones while walking to school or work or bicycling may also contribute to an increased incidence of traffic accidents and injuries.

METHYLPHENIDATE AND SEIZURES

The effects of methylphenidate in ten children with attention deficit complicated by seizure disorders are reported from the Departments of Pediatrics and Neurology, Children's Hospital of Pittsburgh, PA. The seizure types were partial complex in five, generalized tonic-clonic in two, generalized atonic in two, and partial motor with secondary generalization in one. The seizures had been well controlled for at least three months preceding the study. Monotherapy consisted of carbamazepine in five, phenobarbital in two, valproic acid in two, and phenytoin sodium in one. Methylphenidate was administered 0.3 mg/kg/dose at 8 a.m. and 12 p.m. on school days only and the study design was a double blind medication-placebo crossover. There were significant improvements on the Conners' Teacher Rating Scale and on the finger tapping task. No seizures or changes in the EEG occurred during the study period. It was concluded that methylphenidate may be a safe and effective treatment for certain children with seizures controlled with anticonvulsant medication and complicated by attention deficit disorder. (Feldman H et al. Methylphenidate in children with seizures and attention-deficit disorder. AJDC September 1989; 143:1081-1086).

> COMMENT. The Physicians' Desk Reference includes a contraindication to the use of Ritalin as follows: "there is some clinical evidence that Ritalin may lower the convulsive threshold in patients with prior history of seizures, with prior EEG abnormalities in the absence of seizures, and, very rarely, in

absence of history of seizures and no prior EEG evidence of seizures. Safe concomitant use of anticonvulsants and Ritalin has not been established. In the presence of seizures, the drug should be discontinued." Based on the present study of ten patients and in a retrospective study of 23 patients (McBride MC et al. Ann Neurol 1986; 20:428) there is some support for the use of Ritalin in the hyperactive patient with seizures controlled by anticonvulsant drugs. Phenobarbital is generally a poor choice as an anticonvulsant in children with attention deficit disorder and alternative medications are preferred. Pemoline (Cylert) is generally considered to have less tendency to lower seizure threshold than does methylphenidate. Some recommend that all patients considered for treatment with methylphenidate should first receive an electroencephalogram; those with a history of seizures and/or epileptiform discharges in the electroencephalogram should receive treatment with an anticonvulsant drug such as carbamazepine concomitantly with the CNS stimulant. In a study of the electroencephalogram in 100 consecutive children with attention deficit disorder and hyperactivity, 7% had Grade III dysrhythmias consisting of spike-and-wave, spike or sharp wave abnormalities indicative of seizure activity. (Millichap JG. The Hyperactive Child with Minimal Brain Dysfunction. Chicago, Yearbook Medical Publishers. 1975). The frequency of significant abnormalities in the EEG is sufficient to warrant testing before treatment with methylphenidate.

METHYLPHENIDATE, ACADEMIC PERFORMANCE, AND BEHAVIOR

The effects of 0.3 mg/kg and 1.0 mg/kg of methylphenidate on the overt behavior and academic functioning of 12 children with ADDH are reported from the Department of Psychiatry Research, Hospital For Sick Children, Toronto, Ontario, Canada. A double blind placebo control crossover design was used and each child was tested four times in each drug condition. Methylphenidate enhanced academic functioning by increasing accurate productivity on academic tasks, as well as improving overt behavior. All 12 children were able to complete more work at all levels of the arithmetic task and the letter task without sacrificing accuracy. The majority showed more than a 25% increase in the number of problems completed correctly compared with placebo level performance. The beneficial effects on academic performance did not vary with dosage or task complexity. Behavioral and academic improvements produced by a dose of 0.3 mg/kg in the morning were no longer evident in the afternoon, but a morning dose of 1.0 mg/kg produced behavioral improvements that were clinically and statistically present in the afternoon although academic improvements had disappeared. An increase in pulse and blood pressure was observed one hour following 1.0 mg/kg methylphenidate. (Tannock R et al. Dose-response effects of methylphenidate on academic performance and overt behavior in hyperactive children. Pediatrics October 1989; 84:648-657).

COMMENT. Sprague and Sleator reported differences in dose effects on learning and social behavior following treatment with