

## Who says 'no' to drugs?

A rare long-term study of drug use in a large population finds that teenagers who take up marijuana or cocaine mainly to go along with what their friends are doing — in contrast to those who primarily use the drugs for a pleasurable “high” or to cope with stress — are most likely to “just say no” to continued drug use by age 28 or 29.

For those who use drugs in response to peer pressures, getting married and having children is closely tied to giving up the substances, report Denise B. Kandel and Victoria H. Raveis in the February ARCHIVES OF GENERAL PSYCHIATRY.

Factors that correlate with the continued use of marijuana and cocaine in adulthood are much the same as those that best predict who will be attracted to drugs as a teenager, say Kandel and Raveis, both of Columbia University in New York City. These predictors include having numerous drug-using friends and consistently engaging in violent or criminal acts.

Among a random sample of 1,222 New York high school students interviewed at ages 15 or 16 in 1971 and 1972 and contacted again in 1980 and 1984, cocaine use was generally intermittent while marijuana use was more regular and frequent. Of those reporting marijuana use at age 24 or 25 in 1980 (54 percent of the men and 38 percent of the women), one-third of the men and nearly one-half of the women were no longer using it in 1984. Of those reporting cocaine use in 1980 (22 percent of the men and 14 percent of the women), about half of both groups stopped using it by 1984.

Young adults still using marijuana were more likely to be heavy users of the substance, the researchers say. Persistent cocaine users, and women cocaine users in particular, were less likely to have been heavy users. Less is known about the behavior of women cocaine users than any other group of drug users, the investigators say.

In an accompanying editorial, psychiatrist Roger E. Meyer of the University of Connecticut Health Center in Farmington says the study provides an important look at the natural history of illicit drug use. But he notes that the researchers did not ask whether cocaine was taken in powerfully addictive forms, such as “crack,” that rapidly gained popularity around 1984. Further interviews with the New York sample should look at how social factors, such as friends' drug use, may contribute to changes in the way cocaine is consumed, Meyer maintains.

## Hypnosis through the years

A person's susceptibility to hypnosis, as measured by a brief test, remains relatively consistent over as many as 25 years, according to a study reported in the February JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY. In the test, an experimenter attempts to hypnotize a subject and then makes a number of suggestions, such as telling the subject his arm is “as stiff as an iron bar” and asking him to try to bend it. The stability of scores on this test make it an important tool in studying clinical uses of hypnosis, such as pain relief, say Stanford University psychologists Carlo Piccione, Ernest R. Hilgard and Philip G. Zimbardo.

In 1985, the researchers gave the 12-item hypnotic susceptibility test to 50 Stanford alumni who had taken the same test in the early 1960s and in 1970. The average score for the entire group did not markedly change over time; only eight people displayed significant changes after 25 years.

It is not clear why hypnotic susceptibility remains stable despite the many changes in subjects' lives over a quarter century, the researchers say. Moreover, they add, the data fail to resolve the debate over whether hypnosis involves a special state of mental awareness or an attempt to meet the demands of the hypnotist and justify one's own preconceptions of hypnosis by cooperating with suggestions.

MARCH 4, 1989

## Dioxin via skin: A hazard at low doses?

How well skin bars entry to toxic chemicals can depend on several factors, such as body site and hairiness (SN: 6/25/88, p.407). U.S. toxicologists now find that two other factors are important for dioxins and furans: dose and age.

The lower the dose, the more easily dioxins and furans penetrate skin, report researchers at the National Institute of Environmental Health Sciences, in Research Triangle Park, N.C. For example, 40 percent of 2,3,7,8-TCDD — the most toxic dioxin — passes through a rat's skin when given at a dose of 0.3 microgram per kilogram of body weight. Absorption falls to less than half that at TCDD doses between 32 and 320 micrograms per kilogram, they note in the January TOXICOLOGY AND APPLIED PHARMACOLOGY. The furans tested show a similar trend.

Structural similarity offered no reliable gauge of how a chemical will move. In skin penetrability and accumulation in liver and fat, the four-chlorine dioxin more resembled the five-chlorine furans (PeCDFs) than TCDD's four-chlorine furan analog — 2,3,7,8-tetrachlorodibenzo furan (TCDF). At 30 micrograms per kilogram, 50 percent of the TCDF was absorbed while only 18 to 34 percent of the others entered skin. Linda S. Birnbaum, who directed the work, suspects TCDF's higher absorption results from its greater solubility and her team's finding that so much more of it (56 percent) was metabolized by the skin and cleared from animals than was TCDD (10 percent), 1PeCDF (32 percent) or 4PeCDF (2 percent).

These data suggest systemic toxicity from acute dermal exposure to these chemicals “is unlikely,” the researchers report. Chronic low-dose exposure is another matter. That's where “you're going to have the potential to build up a body burden,” Birnbaum says.

In a related study reported this week at the Society of Toxicology meeting in Atlanta, Birnbaum described a 70 percent reduction in TCDD absorption through skin — from 16 percent to just 5 percent — as she moved from rats 3 months old (young adults) to those 9 months (middle aged) or older. Since human data suggest baby skin would be much more permeable, she says the new findings will compel her to repeat the study with neonatal to adolescent animals.

## Environmental costs of keeping baby dry

U.S. babies dirty some 18 billion disposable diapers a year. Unlike the cotton ones mom washed and then recycled back onto baby's bottom, disposables — now used in 85 percent of all U.S. baby diapering — enter the trash stream. A study released last week by Carl Lehrburger, who designs recycling programs at the Albany, N.Y.-based Energy Answers Corp., now shows that by weight, disposable diapers constitute 3.5 to 4.5 percent of all household solid waste. “No other single consumer product — with the exception of newspapers and beverage and food containers — contributes so much,” he says. And its share is growing as adult-size disposables fill a related niche for incontinent older people, and as recycling reclaims more conventional wastes — like cans and paper.

Parents pay a high premium for the disposables' convenience — an increase of \$546 to \$1,417 per child over the cost of using a commercial diaper service or home washing. Not only does landfill disposal of dirty diapers cost at least another \$300 million annually, Lehrburger argues, but it also needlessly exposes sanitation workers to diseases — including possibly polio and AIDS — from incorporated live viruses.

With almost one-third of U.S. landfills due to close in five years — and few new ones slated to open — Lehrburger says U.S. society will soon realize it has no choice but to change its diapering habits: Either return to washable diapers, or develop flushable and/or recyclable disposables.

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