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Energy drinks linked to risky behavior among teenagers

By Tara Parker-Pope

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Health researchers have identified a surprising new predictor for risky behavior among teenagers and young adults: the energy drink.

Super-caffeinated energy drinks, with names like Red Bull, Monster, Full Throttle and Amp, have surged in popularity in the past decade. About a third of 12- to 24-year-olds say they regularly down energy drinks, which account for more than \$3 billion in annual sales in the United States.

The trend has been the source of growing concern among health researchers and school officials. Around the country, the drinks have been linked with reports of nausea, abnormal heart rhythms and emergency room visits.

In Colorado Springs, several high school students last year became ill after drinking Spike Shooter, a high caffeine drink, prompting the principal to ban the beverages. In March, four middle school students in Broward County, Fla., went to the emergency room with heart palpitations and sweating after drinking the energy beverage Redline. In Tigard, Ore., teachers this month sent parents an e-mail message alerting them that students who brought energy drinks to school were "literally drunk on a caffeine buzz or falling off a caffeine crash."

New research suggests the drinks are associated with a health issue far more worrisome than the jittery effects of caffeine — risk taking.

In March, The Journal of American College Health published a report on the link between energy drinks, athletics and risky behavior. The study's author, Kathleen Miller, an addiction researcher at the University of Buffalo, says it suggests that high consumption of energy drinks is associated with "toxic jock" behavior, a constellation of risky and aggressive behaviors including unprotected sex, substance abuse and violence.

The finding doesn't mean the drinks cause bad behavior. But the data suggest that regular consumption of energy drinks may be a red flag for parents that their children are more likely to take risks with their health and safety. "It appears the kids who are heavily into drinking energy drinks are more likely to be the ones who are inclined toward taking risks," Miller said.



The American Beverage Association says its members don't market energy drinks to teenagers. "The intended audience is adults," said Craig Stevens, a spokesman. He says the marketing is meant for "people who can actually afford the two or three bucks to buy the products."

The drinks include a variety of ingredients in different combinations: plant-based stimulants like guarana, herbs like ginkgo and ginseng, sugar, amino acids including taurine as well as vitamins. But the main active ingredient is caffeine.

Caffeine content varies. A 12-ounce serving of Amp contains 107 milligrams of caffeine, compared with 34 to 38 milligrams for the same amount of Coca-Cola or Pepsi. Monster has 120 milligrams and Red Bull has 116. Higher on the spectrum, Spike Shooter contains 428 milligrams of caffeine in 12 ounces, and Wired X344 contains 258.

Stevens points out that "mainstream" energy drinks often have less caffeine than a cup of coffee. At Starbucks, the caffeine content varies depending on the drink, from 75 milligrams in a 12-ounce cappuccino or latte to as much as 250 milligrams in a 12-ounce brewed coffee.

One concern about the drinks is that because they are served cold, they may be consumed in larger amounts and more quickly than hot coffee drinks, which are sipped. Another worry is the increasing popularity of mixing energy drinks with alcohol. The addition of caffeine can make alcohol users feel less drunk, but motor coordination and visual reaction time are just as impaired as when they drink alcohol by itself, according to an April 2006 study in the medical journal *Alcoholism: Clinical and Experimental Research*.

"You're every bit as drunk, you're just an awake drunk," said Dr. Mary Claire O'Brien, associate professor in the departments of emergency medicine and public health services at Wake Forest University Baptist Medical Center in Winston-Salem, N.C.

O'Brien surveyed energy drink and alcohol use among college students at 10 universities in North Carolina. The study, published this month in *Academic Emergency Medicine*, showed that students who mixed energy drinks with alcohol got drunk twice as often as those who consumed alcohol by itself and were far more likely to be injured or require medical treatment while drinking. Energy drink mixers were more likely to be victims or perpetrators of aggressive sexual behavior. The effect remained even after researchers controlled for the amount of alcohol consumed.

Energy drink marketers say they don't encourage consumers to mix the drinks with alcohol. Michelle Naughton, a spokeswoman for PepsiCo, which markets Amp, said, "We expect consumers to enjoy our products responsibly."