History Predicts the Future

Are Some People More Likely Than Others to Experience Blackouts? (White, 2003)

In classic studies of hospitalized alcoholics by Goodwin and colleagues (1969a,b), 36 out of the 100 patients interviewed indicated that they had never experienced a blackout. In some ways, the patients who did not experience blackouts are as interesting as the patients who did. What was it about these 36 patients that kept them from blacking out, despite the fact that their alcoholism was so severe that it required hospitalization? Although they may actually have experienced blackouts but simply were unaware of them, there may have been something fundamentally different about these patients that diminished their likelihood of experiencing memory impairments while drinking.

In support of this possibility, a recent study by Hartzler and Fromme (2003a) suggests that people with a history of blackouts are more vulnerable to the effects of alcohol on memory than those without a history of blackouts. These authors recruited 108 college students, half of whom had experienced at least one fragmentary blackout in the previous year. While sober, members of the two groups performed comparably in memory tasks. However, when they were mildly intoxicated (0.08 percent BAC) those with a history of fragmentary blackouts performed worse than those without such a history. There are two possible interpretations for these data, both of which support the hypothesis that some people are more susceptible to blackouts than others. One plausible interpretation is that subjects in the fragmentary blackout group always have been more vulnerable to alcohol–induced memory impairments, which is why they performed poorly during testing under alcohol, and why they are members of the blackout group in the first place. A second interpretation is that subjects in the blackout group performed poorly during testing as a result of drinking enough in the past to experience alcohol–induced memory impairments. In other words, perhaps their prior exposure to alcohol damaged the brain in a way that predisposed them to experiencing future memory impairments. This latter possibility is made more likely by recent evidence that students who engage in repeated episodes of heavy, or binge, drinking are more likely than other students to exhibit memory impairments when they are intoxicated (Weissenborn and Duka 2000). Similar results have been observed in animal studies (White et al. 2000a).

The argument for an inherent vulnerability to alcohol–induced memory impairments, including blackouts, is strengthened by two recent studies. In an impressive longitudinal study, Baer and colleagues (2003) examined the drinking habits of pregnant women in 1974 and 1975, and then studied alcohol use and related problems in their offspring at seven different time points during the following 21 years. These authors observed that prenatal alcohol exposure was associated with increased rates of experiencing alcohol–related consequences, including blackouts, even after controlling for the offsprings' general drinking habits. In addition, a recent report by Nelson and colleagues (2004) suggests that there might actually be a genetic contribution to the susceptibility to blackouts, indicating that some people simply are built in a way that makes them more vulnerable to alcohol–induced amnesia. . . it is easy to imagine that the impact of alcohol on brain circuitry could vary from person to person, rendering some people more sensitive than others to the memory–impairing effects of the drug.

Aaron M. White, *What Happened? Alcohol, Memory Blackouts, and the Brain* (2003).
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