

## Smoking, but not past alcohol abuse, may impair mental function

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Men and women with a history of alcohol abuse may not see long-term negative effects on their memory and thinking, but female smokers do, a new study suggests.

In a study of 287 men and [women](#) ages 31 to 60, researchers found that those with past alcohol-use disorders performed similarly on standard tests of cognitive function as those with no past drinking problems.

The findings were not as positive when it came to tobacco, however.

In general, women who had ever been addicted to [smoking](#) had lower scores on certain cognitive tests than their nonsmoking counterparts. The same pattern was not true of men, however, the researchers report in the March issue of the *Journal of Studies on Alcohol and Drugs*.

The reasons for the disparate findings on alcohol and smoking are not fully clear. Nor do they necessarily mean that serious [alcohol problems](#) would not affect long-term [memory](#) and other [cognitive abilities](#); most study participants who had ever had drinking problems met the criteria for alcohol abuse rather than the more serious diagnosis of dependence.

Alcohol abuse was diagnosed when people reported one symptom of problem drinking -- drinking and driving, for instance, or failing to meet work or school obligations as a result of drinking. Dependence, on the other hand, required people to have at least three symptoms -- such as needing to drink more and more to achieve the same effects and

experiencing physical withdrawal symptoms when they did not drink.

If more study participants had been alcohol dependent, the findings on cognition might have been different, says lead researcher Dr. Kristin Caspers, an assistant research scientist in the department of psychiatry at the University of Iowa in Iowa City.

But the bottom line, she says, is that people with a history of alcohol abuse appear not to be "doomed" to suffer cognitive effects when current levels of drinking are in the light to moderate range.

The findings are based on assessments of 115 men and 169 women with an average age of 43. Overall, 45 percent of men and 37 percent of women met the criteria for lifetime [alcohol abuse](#), and 13 percent and nearly 4 percent, respectively, had a lifetime history of alcohol dependence. One quarter of women and 18 percent of men had a history of tobacco dependence.

Overall, women who reported having ever smoked 20 or more cigarettes a day scored lower than nonsmokers on tests of executive function -- that is, "higher-order" brain functions that include the ability to reason, plan and organize. The scores were, however, all within normal range.

As for why smoking was related to cognitive scores only among women, it's possible that there is a role for estrogen, according to Caspers.

Animal research suggests that nicotine lowers blood estrogen levels and may inhibit the positive effects of the hormone on brain cells. Sixty percent of the women in the current study were between the ages of 40 and 54, when menopause usually occurs. In theory, nicotine may exacerbate any brain-cell effects of fluctuating estrogen levels in women as they age, the researchers speculate.

**More information:** Caspers, K., Arndt, S. Yucuis, R., McKirgan, L., & Spinks, R. (March 2010). Effects of alcohol- and cigarette-use disorders on global and specific measures of cognition in middle-age adults. *Journal of Studies on Alcohol and Drugs*, 71 (2), 192-200. Available at: [www.jsad.com/jsad/link/71/192](http://www.jsad.com/jsad/link/71/192)

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