

# Certain environmental factors impact alcohol problems more for European than African-American women

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An early age at first drink (AFD) is associated with a greater risk for subsequent alcohol use disorders (AUDs). While African Americans (AAs) generally report an older AFD and fewer alcohol-related problems than European Americans (EAs), few studies have explored the association between AFD and problem drinking across ethnicity. A new study looks at the influences of genetics versus the environment on AFD and problem drinking among AA and EA women, finding that environmental factors shared by family members, such as parenting and school influences, play a larger role in the development of alcohol-related problems in EA than AA young women.

Results will be published in the November 2013 issue of [\*Alcoholism: Clinical & Experimental Research\*](#) and are currently available at Early View.

"An early AFD is essentially a marker of risk for later alcohol-related problems," said Carolyn E. Sartor, assistant professor in the department of psychiatry at Yale University School of Medicine as well as corresponding author for the study. "This relationship is largely due to common sources of familial risk, including genetic influences."

Sartor added that this is one of the first studies to examine the influences of genetics versus the environment on AFD and problem drinking among women of AA and EA ethnicities. "There are so few twin studies that

include a large number of [African Americans](#), it has not been possible to do this type of analysis in other twin samples," she said. "There are a number of molecular genetic studies – that is, studies in which specific genes are examined – investigating potential differences between AAs and EAs in genetic influences on alcohol dependence, but not AFD or the less-severe, problem-drinking outcome we examined."

Sartor and her colleagues examined data from a larger longitudinal study of female twins in Missouri. This sample was comprised of 3,532 twins (3,052 EA, 480 AA; 18-29 years of age) who reported consumption of at least one alcoholic drink over the lifetime. Twin modeling was used to estimate the relative contributions of additive genetic, shared environmental, and unique [environmental factors](#) to AFD and alcohol-related problems, rather than measure specific environmental influences or genes.

"Common or shared environmental factors, such as parenting and school influences, play a larger role in the development of alcohol-related problems in EA than AA young women," said Sartor. "Whereas about one-third of the risk for problem drinking in EAs was explained by a common environment, we found no evidence for a common environmental contribution to problem drinking in AA young women."

"Among AAs, genetics accounted for less variability in the age of drinking onset than on EAs," added Denise Herd, associate professor of public health at the University of California at Berkeley. "In the AA sample, nearly half of the variation in AFD was due to unique environmental effects – the remaining variance was about equally divided between genetic effects and shared environmental features. Among EA women, these patterns were different with 45 percent of the variation in AFD attributed to genetic effects, and the rest split almost equally between shared and unique environmental factors. In contrast, for problem drinking, the variation attributed to [genetic](#) factors for AAs

was about twice that observed for EA women. In addition shared environmental features contributed to a third of the variance in problem drinking among EA women, but nothing to the variance for AA women."

"In other words," said Sartor, "the higher heritability estimate for AAs versus EAs indicates that genes contribute to problem drinking to a greater extent in AA than EA women."

Sartor added that there may be aspects of environments in which AA girls and young women are being raised that protect them against problem drinking, and which are not in place to the same degree for EA girls and [young women](#).

"Examples of the types of shared environmental factors that may act as protective factors include a high degree of religiosity and negative attitudes toward alcohol use among AAs," she said. "In an environment that discourages heavy alcohol use, genetics – and individual-specific environmental influences – then drive the risk for problem drinking. Identifying and encouraging greater involvement in the aspects of the community that protect against risk for problem drinking are essential components of prevention and intervention."

"Given that the socio-cultural determinants of drinking behavior are very complex – involving individually inherited traits, familial and peer influence, neighborhood environments, [alcohol](#) availability and marketing – I think the interpretations of the study should be cautious with respect to clinical implications," said Herd. "That being said, this study could be viewed as a part of the literature showing that ethnic and racial variability in explanations for the onset of drinking and problem experiences are important. These findings add to research suggesting that 'one size doesn't fit all' in assumptions about the etiology of problem drinking in multicultural situations. In summary, I think this paper might help lay readers and practitioners understand that social and familial

environments and different life trajectories for different groups of women can impact their drinking behavior."

Provided by Alcoholism: Clinical & Experimental Research

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