

Sober drinking knowledge often fails 'in the moment' of intoxication

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Approximately one-third of all fatal crashes each year in the U.S. involve an alcohol-impaired driver. Prior research has shown that alcohol alters perceptions of risky behaviors such as drinking and driving. However, studies testing these perceptions typically measure them while participants are sober. A new study measuring the perceived dangerousness of driving after drinking assessed while individuals were intoxicated, and comparing these perceptions to those assessed while sober, found that sober knowledge does not necessarily translate into responsible judgment while intoxicated.

Results will be published in the February 2014 issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"Alcohol can alter how we perceive a number of things," said Denis M. McCarthy, associate professor at the University of Missouri as well as corresponding author for the study. "For example, we know that [alcohol](#) can impair someone's judgment, decrease their self-control, and alter what elements of their situation they attend to. Based on this, we were interested in examining whether alcohol can alter how the risks associated with impaired driving are appraised."

"It is stating the obvious, but people who decide to drive while under the influence of alcohol make those decisions while under the influence of alcohol," said Mark B. Johnson, a senior research scientist at the Pacific Institute for Research and Evaluation. "Research has generally focused

on the judgments of sober individuals, and prevention messages are targeted to potential drinking drivers while they are sober. However, the present research shows us that the sort of decisions people think they would make while sober may be different than the decisions they would make after drinking. If we want to understand how to change people's drinking and driving decisions in the real world, we need to study decision making under the influence of alcohol."

McCarthy fully agreed. "It is important to examine how people make decisions in the context in which the decisions are made. For example, if we want to understand how people make decisions under stress, we know it is important to study their decision-making process while stressed. Similarly, the decision to get behind the wheel while intoxicated is ultimately made while intoxicated."

McCarthy and his colleagues recruited 82 young adults (43 men, 39 women) from a large, Midwestern university and its surrounding community via flyers and university informational emails to attend two counterbalanced laboratory sessions. During one session, [participants](#) consumed a moderate dose of alcohol (.72 g/kg for men, .65 g/kg for women) and reported the perceived danger of driving and their willingness to drive at multiple points across the breath alcohol concentration (BrAC) curve. On a separate occasion, participants remained sober and appraised the dangerousness of driving at a hypothetical, illegal BrAC.

"We found that, when intoxicated, a person's appraisal of the risk of driving in that state can play an important role in their choice of whether to drive over and above their sober thoughts about drinking and driving," said McCarthy. "We think this is important because it seems that people have gotten the message drinking and driving is dangerous, and most people, when they are sober, honestly think it is too dangerous to do. However, those same individuals may not apply this [judgment](#) when it

counts the most—when they are currently intoxicated and need to decide whether it is safe for them to drive in that moment."

"This difference was pronounced for both men and women only on the descending leg of the alcohol curve," added Johnson. "Drinkers coming down from their peak BAC feel that it is safer to drive than did sober persons thinking about drinking and driving. "Second, not only were the perceptions of risk different between sober and drinking participants, but the perceptions were significantly related to willingness to drive. People, while intoxicated, who rated driving risk as relatively low were more likely to indicate a willingness to drive; further, there was some evidence that perceptions of low risk were associated with actually having driven after drinking in the recent past."

"One suggestion from our data is that it is not enough for people to be aware of drinking and driving risks, or even to know intellectually how much alcohol it takes to make driving unsafe," said McCarthy. "People need to be able to apply this knowledge to a specific situation. What's more, they need the skills to apply it while they are currently impaired by alcohol."

"Evidence suggests that public information/awareness campaigns have only very modest effects on drinking and driving, and of the campaigns that actually are effective, many include additional elements like increased law enforcement," added Johnson. "It isn't clear that providing the same risk-awareness messages over and over is going to be effective. However, several studies that I have been involved with suggest that providing a simple cue to drinkers not to drink and drive right before they go out drinking seems to reduce alcohol consumption by drivers. This dovetails with the current research in that the timing of the message is important. I don't think that risk messages need to be very complicated or novel because most people already know the information—but the timing may matter a great deal."

Johnson added that a question prompted by this research concerns what would happen if people receive a risk message while intoxicated, shortly before deciding whether to drive home. "The data show that intoxicated persons perceive the drinking and driving risk to be lower, so maybe providing them with risk information at this point may be ideal," he suggested. "However,]it is possible that being intoxicated would interfere with the message having any persuasive effect at all. Conversely, giving people a brief drinking and driving message right before they start drinking might be a good approach. All that said, given that alcohol affects decision-making, getting people to make their drinking and [driving](#) decisions in advance, before they become influenced by alcohol, makes sense. One should determine in advance how to get home safely. Assigning a designated driver or taking a taxi to the [drinking](#) establishment helps alleviate the harm that might come from impaired decision-making later in the evening."

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