

Drinking to manage physical pain results in perceived relief, increasing vulnerability to dangerous alcohol use

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People who self-medicate pain with alcohol may be vulnerable to hazardous drinking, with their experience of pain relief a potentially powerful driver of alcohol consumption, a new study suggests. Both pain

and dangerous alcohol use are major public health issues. Each affects millions of US adults and costs hundreds of billions of dollars annually in health care and lost productivity. Recent studies have demonstrated a strong correlation between pain and alcohol use; people with chronic pain are more likely than others to report heavy drinking, and those with alcohol use disorder (AUD) are more likely to report chronic pain.

Alcohol has known analgesic effects. Evidence of shared neural mechanisms underlying [chronic pain](#) and substance misuse suggest alcohol's pain-relieving capacity might be influenced by individuals' experience of chronic pain. Better understanding the relationship between chronic pain and [alcohol use](#) could inform improved prevention and treatment approaches. For the study in *Alcoholism: Clinical & Experimental Research*, researchers at the University of Florida examined the analgesic effects of alcohol on regular drinkers with and without chronic pain, measuring alcohol's impact on pain threshold, intensity, unpleasantness, and relief.

The investigators worked with 48 social drinkers aged 21–45, predominantly women, who filled out questionnaires on their demographics and typical drinking. The 19 participants with chronic jaw pain were evaluated by an orthodontist and an orofacial pain expert and completed a questionnaire on pain severity and quality-of-life impacts. All participants underwent two testing sessions. In one, they consumed alcohol calculated to achieve a breath alcohol concentration (BrAC) of 0.08 g/dL, a level consistent with intoxication; the other involved a placebo beverage. After drinking, the participants' BrAC was measured at intervals.

Meanwhile, researchers applied pressure to the participants' jaw muscles evoking sensations similar to chronic jaw pain. The participants indicated when those sensations transitioned from pressure to pain, and rated their pain intensity and unpleasantness and the relief they

perceived as a result of beverage consumption. The investigators used [statistical analysis](#) to explore associations between the type of beverage, pressure level, chronic pain status, and participants' reported experiences.

During the test sessions, after drinking alcohol, participants demonstrated a higher pain threshold, lower pain intensity and unpleasantness, and—most strikingly—greater perceived relief, compared to the placebo beverage. People with chronic pain reported significantly greater pain sensitivity than the other participants; lower pain threshold, higher pain intensity, and greater pain unpleasantness. The study did not, however, find that the analgesic effects of alcohol differed between those with and without chronic pain.

The study provides further evidence that people with chronic pain may use alcohol to self-manage it, increasing their risk for hazardous drinking and alcohol-related consequences. This may be a result of their experiencing pain more frequently and intensely than others, rather than any differential analgesic impact of alcohol in people with chronic pain. Alcohol's pain-relieving effects may particularly reinforce the urge to drink—more so than its influence on [pain](#) intensity, unpleasantness, or threshold. Additional research is needed on whether [alcohol](#) has different [analgesic effects](#) in other populations.

More information: Darya Vitus et al, Analgesic effects of alcohol in adults with chronic jaw pain, *Alcoholism: Clinical and Experimental Research* (2022). [DOI: 10.1111/acer.14883](https://doi.org/10.1111/acer.14883)

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