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Anthony Isenhour
University of Richmond

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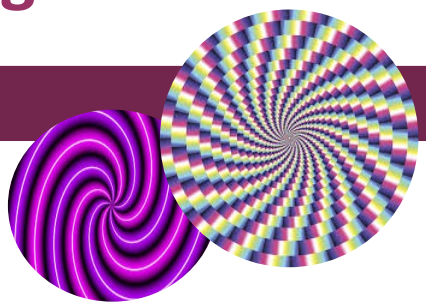
What's the Hang-Up on Hangovers?

By Anthony Isenhour



Getting a hangover after drinking the night before can lead to varying regrets the next morning depending on a variety of factors including gender, weight, food consumption, and alcohol consumption. What a hangover feels like can vary a lot too: headaches, nausea, fatigue, etc.

Scientists are interested in understanding hangovers and how to prevent them because they experience them too. In order to better understand hangovers from a scientific perspective, a unifying definition needed to be set. In 2016, some scientists worked with consumer descriptions and experts to define a hangover from alcohol as referring "to the combination of mental and physical symptoms, experienced the day after a single episode of heavy drinking, starting when blood alcohol concentration approaches zero."[1] Nonethelss, scientists are still confused about how hangovers work, and why only about 75% of people report having ever experienced a hangover.[2]

` There are a variety of potential factors that affect hangovers, stemming from how the body breaks down the alcohol, to other chemicals in the drinks, as well as genetics and personal factors. Studies have shown that some metabolic pathways other than just breaking down the alcohol (ethanol) seem to be involved in hangovers and involve molecules like vitamin B_6, zinc, and antidiuretics (which control how much water your body holds).[3] Similarly, drinks like red wine, rum, and whiskey have more of the other chemicals that may make hangovers more severe such as methanol.[4]

However, in delving into the personal and genetic factors that contribute to hangovers, studies have found that the sons of alcoholic parents (who are at greater risk for alcoholism) have more frequent hangovers.[5] This could stem from genetic factors, as well as environmental factors affecting diet and approach to alcohol consumption. Similarly, scientists have seen that guilt about drinking and higher levels of anger or depression are associated with experiencing more hangovers.[6] Stress has been shown to bring on similar symptoms to hangovers and the scientists who saw the above emotional ties to hangovers believe that this combination of different types of stress may be what is causing more hangovers. So if you're getting ready for a night out to relieve some stress, be wary of how you might feel the next morning.

Not only do all of these factors contribute to hangovers, but it is found that gender does as well. Research shows that women reach a higher blood alcohol content (BAC) with the same amount of alcohol, but that men typically consume more alcohol in a single drinking session leading to typically higher negative consequenc-

es. When studies take all of these factors into account, it seems that men are less sensitive to the adverse effects of alcohol (aka hangover symptoms) at the same BAC.[7] However other studies find that there are little to no differences between men and women in regards to hangovers so no one is safe.[8,9] On another surprisingly positive note, a large-scale research project has found that hangover symptoms and severity tend to decrease as you age.[10]

While the likelihood that we may experience hangovers is clearly very variable, what about treating hangovers? A 2005 study compared a range of potential hangover cures--such as some various drugs, sugar, pickled vegetables, and fruits--only to find that none of them are effective hangover cures. However, a more recent study has shown that a diet rich in zinc and vitamin B_3 leads to less severe hangovers.[11] Both of these seem to be important in helping regulate the proteins in your cells that are breaking down the alcohol. This study did also mention that for the 20-25% of people lucky enough to experience no hangover symptoms there must be some other biological reason. Similar to popular belief though, clear alcohols and ones that are closest to pure ethanol are less likely to promote hangovers.

Scientists seem to conclude that a true hangover cure might be out there, but that traditional methods of moderation, diet, and basic symptom treatments are your best bet. Similarly, studies have not been able to identify a main cause for hangovers (other than drinking alcohol) that could help lead to lessening hangover severity. Instead, much like the rest of life, the pain comes from many a reason and many a place.

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