

Your biological sex doesn't determine the extent to which we can learn, play, contribute, or succeed, but it does affect the way your body processes alcohol. There are some important physiological differences that change the way alcohol affects men and women.

Consider the following:

Generally, a woman gets drunk faster than a man consuming the same amount of alcohol. Imagine you are a 150-pound woman and you drink four 12 oz beers in 2 hours. Your estimated blood alcohol concentration (BAC) would be about 0.10. Most people feel drunk at 0.10 BAC. Your reaction time is delayed and your muscle control is impaired. You might feel dizzy, nauseous, and have trouble walking.

What about the guys? If a man weighs the same 150 pounds and drinks the same amount alcohol over the same amount of time, his estimated BAC would be about 0.08 and he would experience fewer effects as a result. In fact, in this scenario a woman would achieve the same effects after four drinks that a man would after five.

WHY BIOLOGY MATTERS WHEN IT COMES TO ALCOHOL

What accounts for the variation?

There are several factors to consider:

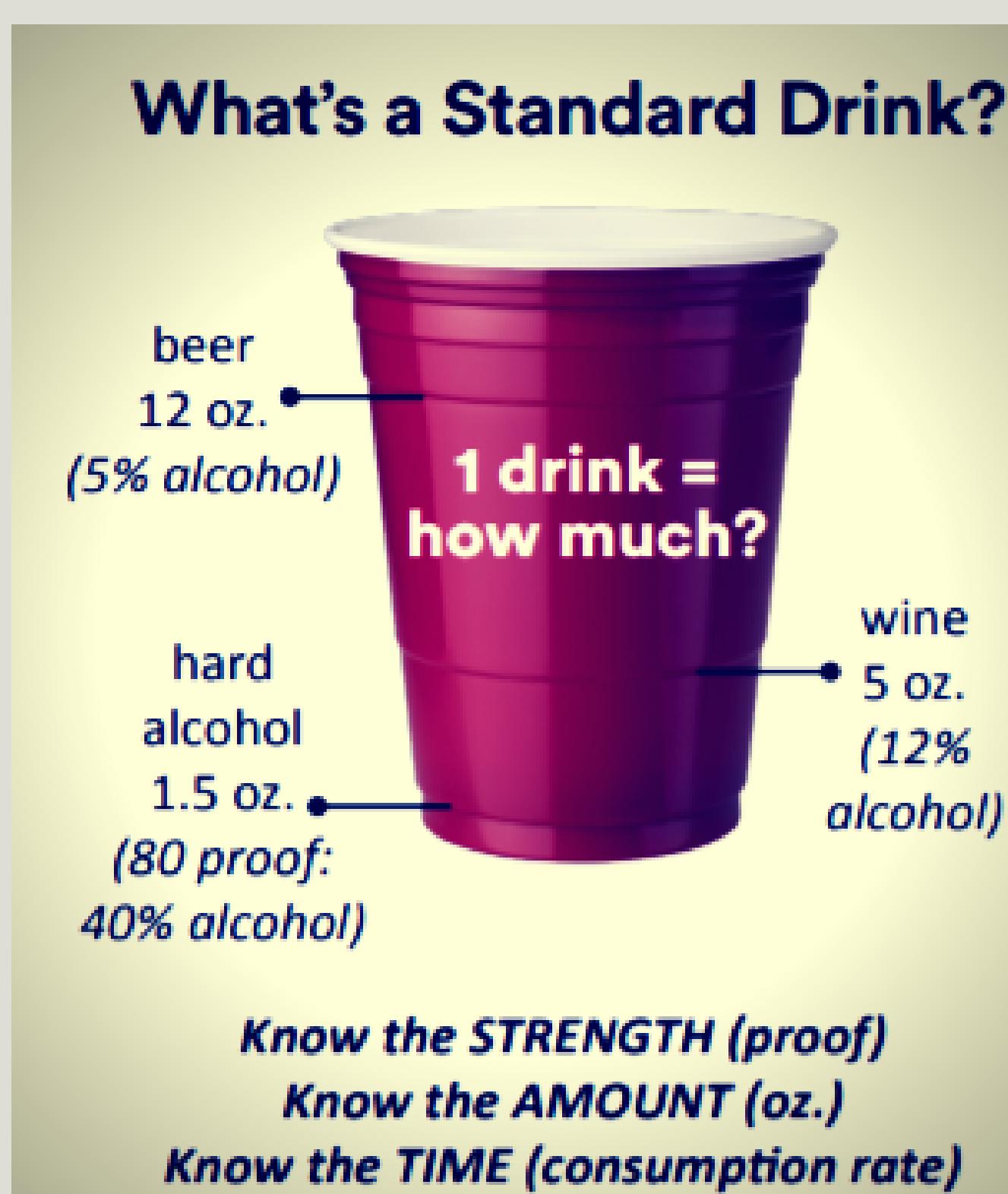
- First, there are differences in **body water content** for men and women. The total weight of a man is composed of 55-65% water (vs 45-55% water for a woman); so alcohol is more diluted in men than women.
- Second, men have **higher levels of an enzyme** (gastric alcohol dehydrogenase) that aids the metabolism of alcohol. Having more of this enzyme enables men to more effectively break down alcohol in the stomach before it even reaches the blood stream and impacts their BAC.
- Third, **hormonal changes in women** affect BAC. Research has found that one week prior to menstruating, women maintain the peak degree of intoxication for longer periods of time than menstruating or post-menstruating individuals do. This same pattern of prolonged peak intoxication is also found among women taking oral contraceptives.

- Finally, **body size** matters. Generally, men have larger skeletal frames and muscles, so alcohol is diluted over a larger mass.

All of this means women typically experience greater impairment after drinking less alcohol than men. With greater impairment comes an increased risk for harm; including hangovers, nausea, vomiting, memory loss, blackouts, and other regretted behaviors. You can see how your own BAC would change based on your size, biological sex and drink choices with the BACcards.com app. After downloading the app, select "Villanova University" to receive customized resources and services.

Get help in alcohol emergencies

Alcohol emergencies can be fatal. Never hesitate to call VEMS on campus or 911 off campus to get help for yourself or for a friend. Remember: Pennsylvania's Good Samaritan law and Villanova's medical assistance policy can eliminate disciplinary consequences in alcohol or other drug emergencies.

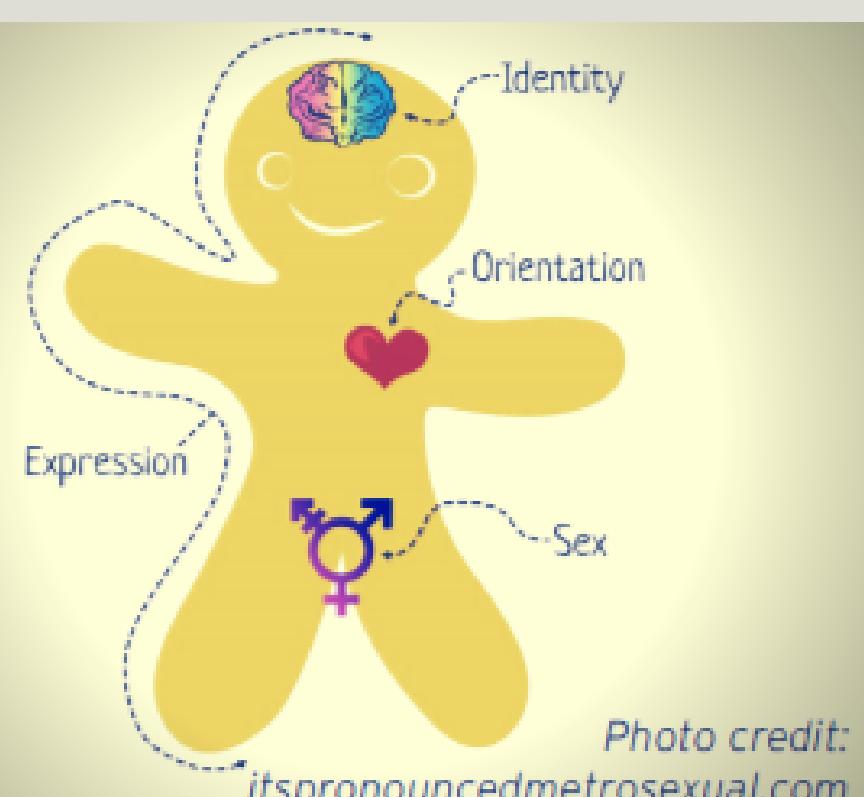


Research on alcohol's effects on transgender and intersex people is seriously lacking

The vast majority of alcohol research has been conducted with "cisgender" men and women (see definitions), which means we just don't know as much about how alcohol affects transgender and intersex bodies (Important research opportunity alert!). And, just like gender expression differs widely, the effects of alcohol can vary significantly among those who are cisgender, transgender and intersex. It's likely hormone therapy may increase the intoxication effects of alcohol, yet transitioning does not affect other important physiological traits that often play a larger role in processing alcohol (e.g., gastric alcohol dehydrogenase levels and liver size). Even less is known about how alcohol may impact intersex bodies. We always recommend you consult your own health care provider(s) for individualized information about your body and the impact of alcohol or other drug use. Female-bodied people develop alcohol related organ damage at lower levels of alcohol consumption and after a shorter history of drinking than men. Female organs appear to be more vulnerable to alcohol-induced damage than male organs. For example, women with alcoholism develop cirrhosis of the liver, alcohol-induced damage to the heart, and nerve damage after fewer years of heavy drinking than do male-bodied people with alcoholism. Talking about organ damage may sound scary when thinking about college student drinking. But consider this: if the organs of women are at greater risk for damage from heavy drinking over shorter periods of time, then four years of heavy college drinking may take a greater toll on cisgender female bodies than cisgender male bodies.

When not to drink

Most people know it is important not to drink when they are pregnant or trying to get pregnant, or if they are on certain prescription medications, such as certain antibiotics, antidepressants, or pain killers. However, there are other times when it is best to pass on alcohol. A good rule for when not to drink is when you are Hungry, Angry, Lonely or Tired ("HALT").



Alcohol often plays a role in sex & sexual violence

It is impossible to talk about alcohol and not talk about sex. Meeting potential partners (for dates, a relationship, or a one night hook-up) is a big part of the drinking scene. Alcohol can lower inhibitions and make it easier to talk to people you find attractive. However in larger doses, alcohol interferes with sexual performance. Heavy drinking can result in difficulty maintaining an erection or ejaculating for male-bodied people, and decreased lubrication or ability to orgasm for female-bodied people. For the best possible sexual experiences, limit alcohol intake or wait until you and your partner are both sober. Unfortunately, alcohol is involved in more than 70% of sexual assaults nationally on college campuses.

While anyone can be a victim or perpetrator, there is no doubt that sexual violence is a gendered issue. Research tells us the majority of victims are women and transgender people.

The majority of perpetrators are men. Perpetrators often perceive a woman drinking to be a vulnerable target. Some use alcohol as a weapon, intentionally getting someone drunk in order to take advantage sexually. Studies show those who are even a little intoxicated are more likely to be victimized than those not drinking. While drinking less may help reduce your risk, drinking more does not excuse or justify violence. The perpetrator of sexual violence is always the one responsible, no matter what choices were made by the person targeted.

If you drink alcohol

As with any substance, most people who drink alcohol want to experience the optimal positive effect with the least amount of side effects. Proper "dosage" is key. Reaching your buzz slowly and maintaining it will reduce the negative consequences from drinking. Here are some strategies—developed by other students who drink—for optimizing the positive effects of alcohol and avoiding negative consequences:

- Space and pace your drinking to about one drink per hour
- Alternate between non-alcoholic and alcoholic drinks
- Drink for quality, not quantity
- Eat before and during drinking
- Avoid drinking games
- Avoid shots and/or mixed drinks
- Stop drinking when you feel dizzy, nauseated, or tired
- Use a sober driver, walk with a friend, take public transportation, or plan on using a service like Uber

See. Think. Act

Take action to protect friends and others from potential assault. Pay attention and intervene when you see someone acting inappropriately or about to take advantage in a drunken situation. Step in if you are worried that an intoxicated individual may be making a choice that they could regret in the morning—or worse, making a choice that ends up hurting themselves or someone else.

Sex and Gender Terms

It's your "sex" and related biology that contribute to your BAC, not your gender identity.

Gender Identity: Your sense of being masculine, feminine, both, or neither. Sexual orientation varies and is not dependent on gender identity.

Gender Expression: The way you choose to present your gender (clothing, hair styles, etc.).

Biological Sex: Medical term designating a combination of gonads, chromosomes, external gender organs, secondary sex characteristics and hormones.

Birth Sex: The biological sex assigned by a doctor at birth (male, female, intersex).

Intersex: Individual born having physical sex markers (genitals, hormones, gonads, or chromosomes) that are neither clearly male nor female.

Transgender: Individual whose gender identity differ from their assigned or presumed sex at birth.

Cisgender: Individual whose gender identity is the same as their assigned or presumed sex at birth (AKA: "cissexual").