

Alcohol

An Informative Booklet for Youth and Adults

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A Silver Award Project

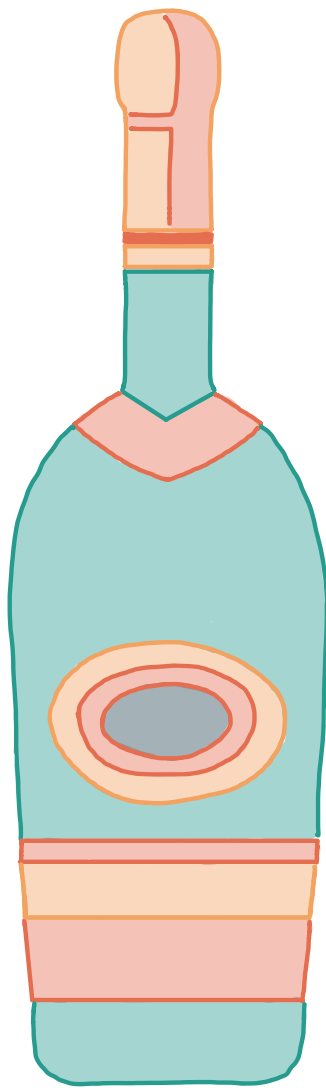


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What is/ About Alcohol

Alcohol is the ingredient in wine, beer, spirits and other drinks that causes drunkenness and other effects in your body.

-The legal drinking age in the United States of America is 21 years old, this means that you can not legally buy it or drink it until you reach that age

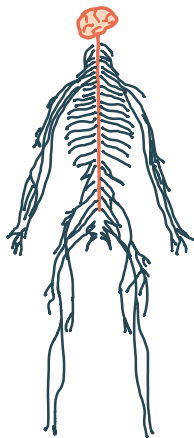
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-A standard drink is any alcoholic beverage that has about 14 grams of alcohol in it (not all drinks are standard) example would be a 12 ounce beer or a 4-5 ounce glass of wine

-Binge drinking for women is more than 4 drinks in a single sitting and for men it is 5 drinks

4-5



-Alcohol is sedative hypnotic drug, which means that it acts on your nervous system to depress it

What is in Alcohol and How it is Made

What is in Alcohol

- The most common, well known alcohol that we drink is ethanol
- Different drinks have different things added to the alcohol, so other things vary based on the drink
- Different types of drinks also have different levels and percentages of how much ethanol is in the drink
 - Fruit is a very common thing added to the ethanol to make a drink. These can vary from berries to apples
- Vegetables are also put into many well known drinks
 - Grains are also very commonly fermented with alcohol. These include cereal grains, or just mashed grains
- Plants and alcohol are also used to make drinks
- Sugar cane and molasses are used to make Rum
- Water is also used, this is a big ingredient in Vodka

How is Alcohol Made

- Some drinks are made through a process called fermentation, which is when yeast and bacteria react with each other to create ethanol (alcohol)
- For example, wine is fermented grape juice, grapes were fermented and they created a byproduct, which included ethanol
- Another process that a drink may go through to become what it is is distillation
- Distillation is when a portion of the water in a drink is removed to increase the concentration of alcohol and flavor. This is how spirits are made
 - Brewing of beer is also fermentation, when they do this, they steep a starch in water
- The longer the ingredients are fermented will affect the drink's alcohol content, there are even wines that are hundreds of years old

Types of Alcohol

Beer

- 2-6% alcohol
- Brewed from cereal grains
- 3rd most popular drink in the world

Wine

- 8-20% alcohol
- Typically made from fermented grape juice
- Many different types/kinds

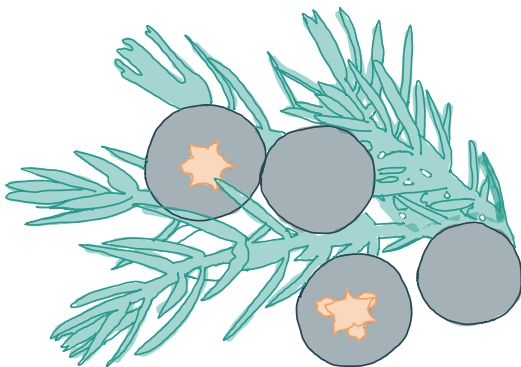
Brandy

- 40% or more alcohol
- Made from distilled wine
- Is sometimes aged in a wooden cask

Gin

- 40-47% alcohol
- Is a distilled alcohol beverage
- Flavor mostly comes from Juniper Berries

Juniper Berries used to make Gin



Cider

- 4-8% alcohol
- Made by the fermented juice of apple
- Very popular in the U.K

Tequila

- 40% alcohol
- Distilled beverage made from the the blue agave plant
- Introduced in the 16th century

Rum

- 40% or more alcohol
- Is made from fermented and distilled sugarcane and molasses
- Many are produced in the Caribbean

Whiskey

- 40-50% alcohol
- Made from fermented grain mash
- Typically aged in wooden caskets

Vodka

- 40-50% alcohol
- Made of mostly water and ethanol
- Very popular in Poland, Russia and Sweden

Liqueurs

- 15-60% alcohol
- Made of distilled spirits
- Heavily sweetened
- Are a descendent of Herbal Medicine

Long Term Effects of Consuming Alcohol

Physical Effects

- Alcohol can lead to death in a number of ways including alcohol poisoning
- Alcohol can effect a pregnancy and lead to health complications or defects in the child
- If you drink too much, your liver can be seriously effected and destroyed which can lead to more health complications like liver disease
- The use of alcohol can lead to cancer in various locations in the body including the mouth, esophagus and colon
- High blood pressure, problems with digestive system, increased risk for stroke
- Weaker immune system which increases your chances of catching something and increases your chances of dying if you do catch something

Mental Effects/Brain Effects

- Alcohol rewires the brain and changes the way that it works in the long run
- If it is consumed while the brain is developing, it can cause many problems that can later affect a person's mental health
- Alcohol can permanently impair your brain's capabilities and cause you to have generally bad impulse control later in life
- Can make you depressed, anxious, and aggressive over a long period of time
- Overall learning struggles and memory issues including dementia
- Alcohol dependency, disorders and problems with alcohol
- Social issues and acting much different near friends and family



Short Term Effects of Consuming Alcohol

Physical Effects

- Alcohol Poisoning which can cause a lot of stomach pain and issues
- Raised blood pressure
- If you are drunk, you may be hungover the next day which is not a pleasant feeling
- Reduced body temperature
- You could pass out if things get to that stage
- Impaired vision that is typically dulled
- Slurred speech, and not being able to speak normally
- Breathing issues
- Headaches or pains
- You could lose red blood cells that your body needs (Anemia)

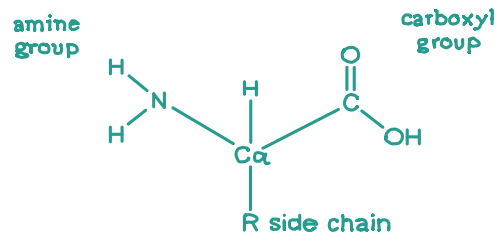
Mental Effects



- Impaired motor control and coordination
- Impulse control which could cause you to do many things that you would not normally do/not under the influence
- Your judgement and decision making is impacted for the worse and you can not think clearly
- You will have a poor memory of what it was like under the influence, and when you were under the influence, your memory was also effected
- Harmful behavior is not an effect of alcohol for everyone, but many people become very violent while under the influence
- Trouble concentrating on certain activities or things
- Mood swings varying from different moods

How Alcohol Produces its Effects

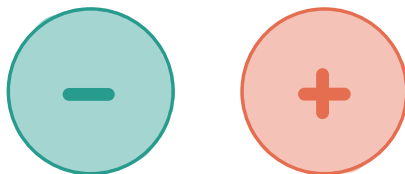
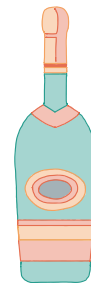
Alcohol affects functioning parts of our brains and interacts with many transmitters and neurons. Alcohol mostly interacts with the receptors of amino acid transmitters and the glutamate in your brain.



Alcohol joins with GABA and glutamate receptors in the brain, which then creates the symptoms and effects that one who drinks alcohol develops.

The neurotransmitter receptors consist of small proteins to create a channel.

The channel is closed unless a neurotransmitter binds with receptors (this opens the channel for a short amount of time). The type of ion that will move through the open channel will depend on the receptor.



GABA receptors release ions with negative charges, and glutamate receptors release positive charges.

Alcohol puts both negative and positive charges into play (it binds to both the GABA and glutamate receptors). This creates a negative environment that slows the electrical activity in your brain. The slowing of the electrical activity creates the effects and feelings that come with alcohol.



Risks of Consuming Alcohol

Some overall risks of consuming/using alcohol are developing the effects that are mentioned on the short term and long term effect page

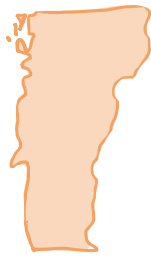
Risks

- You could assault someone, and you are more likely to be assaulted yourself
 - 5,000 people under the age of 21 die because of alcohol related injuries in the United States each year
- Car crash chances increase exponentially when the driver is under the influence
- You develop the risk to try other health inflicting things like drugs such as cocaine
 - 67% of people who drink will try an illicit drug, they are 22 times more likely to use marijuana and 50 times more likely to use cocaine
- Can cause a lot of academic and social issues in your life
- Could get into fights with other people
 - If you are drinking under the age of 15, you are 12 times more likely to get hurt under the influence, and 10 times more likely to get into a fight
- Can cause you to be careless and be very risky sexually, which can bring many problems
- Your driver's license can be taken away if you drive under the influence
- You could develop alcoholism, addiction, or other alcohol related issues
- You become a different person when you are under the effect and you could do something that you regret
- You could develop a mental disorder such as depression
- Your drinking effects the people around you in a negative way
- You could rewire how your brain works, which will effect you for the rest of your life

Fact vs Myth

Alcohol is not addicting and I can do it once
and not do it again

Alcohol is very addicting and most people
can not drink once and never do it again. You
could an addiction and easily become and
alcoholic.

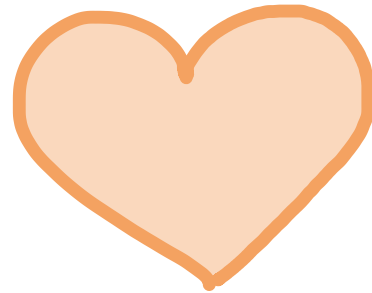


1 drink ≠ 1 drink

Everybody is doing it except me
67% of students in Vermont have not
used alcohol in the past 30 days.
There are kids using it, just not as
many as you may think.

Adults can not prevent their kids from
using alcohol

Having a good strong relationship with
open communication definitely helps
prevent kids not use alcohol. Not only
that, but if you are clear that underage
drinking is bad and you teach your kid,
they are less likely to use alcohol.



5,000

Drinking does not kill underaged
people

About 5,000 underage people die
each year due to alcohol, this
includes car crashes, homicides
and suicides.

If I drink now, it will not effect my drinking
habits when I am older

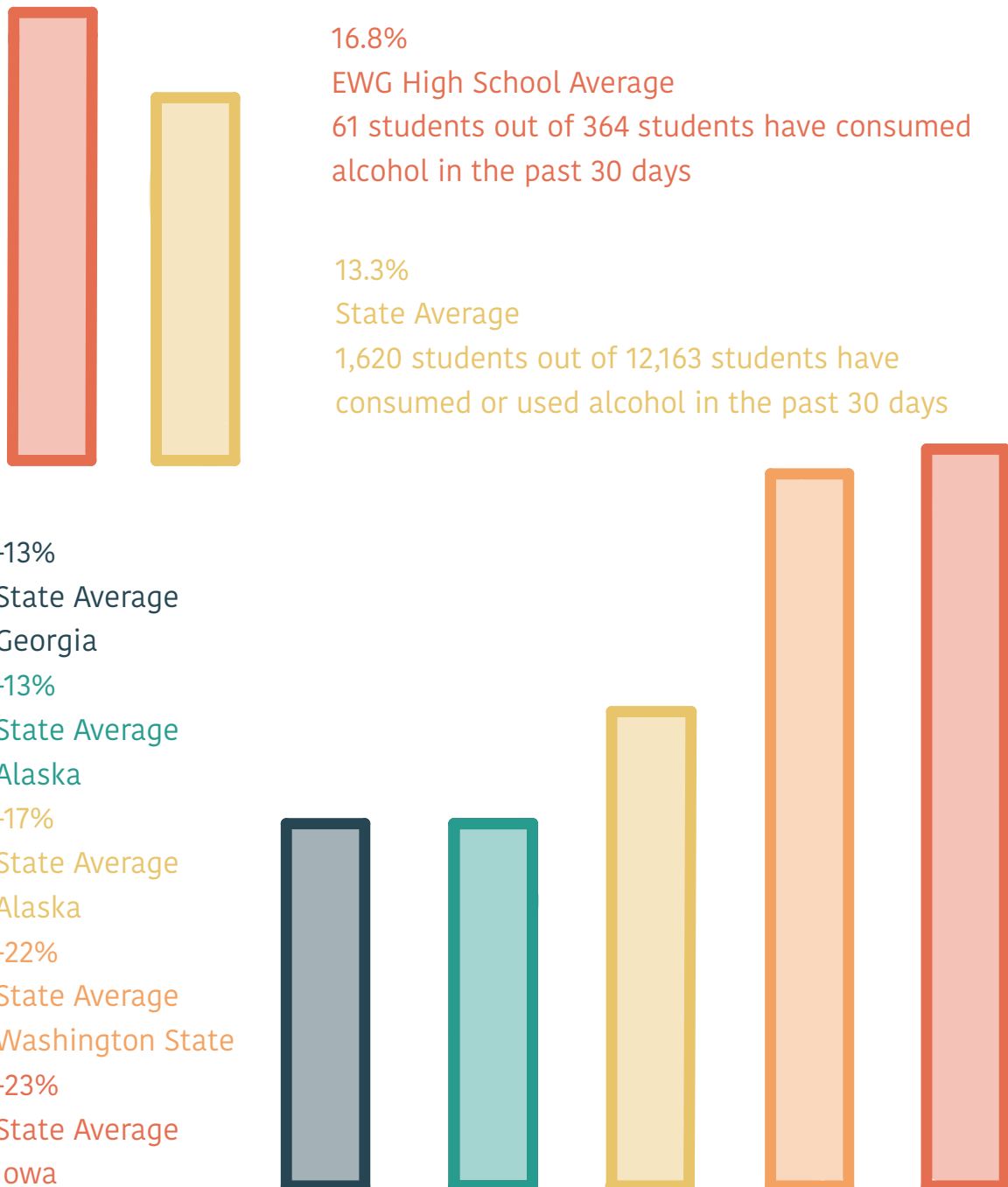
People who drink before the age of 15 are
7 times more likely to develop alcohol
problems when they are older compared
to people who drink after the age of 21

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EWG Statistics (High School)

Alcohol Use in the Past 30 Days

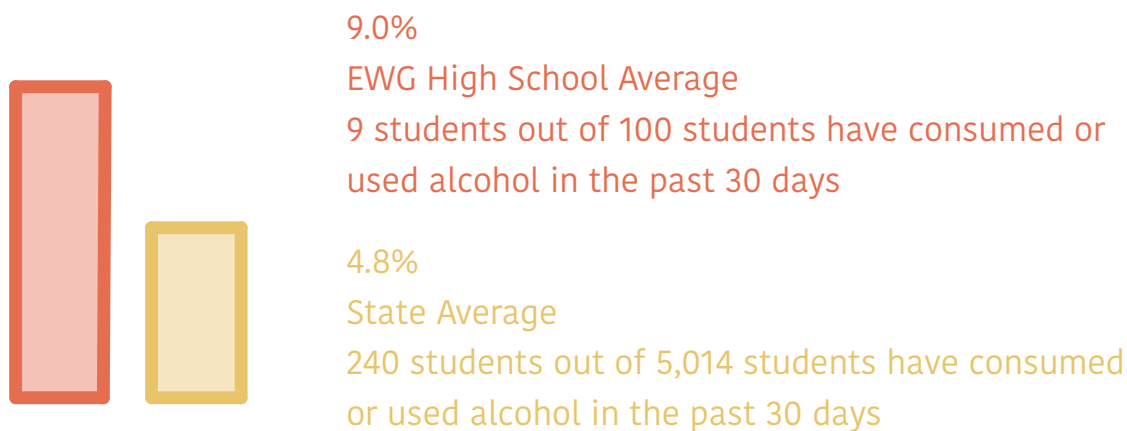
High School Comparison



EWG Statistics (Middle School)

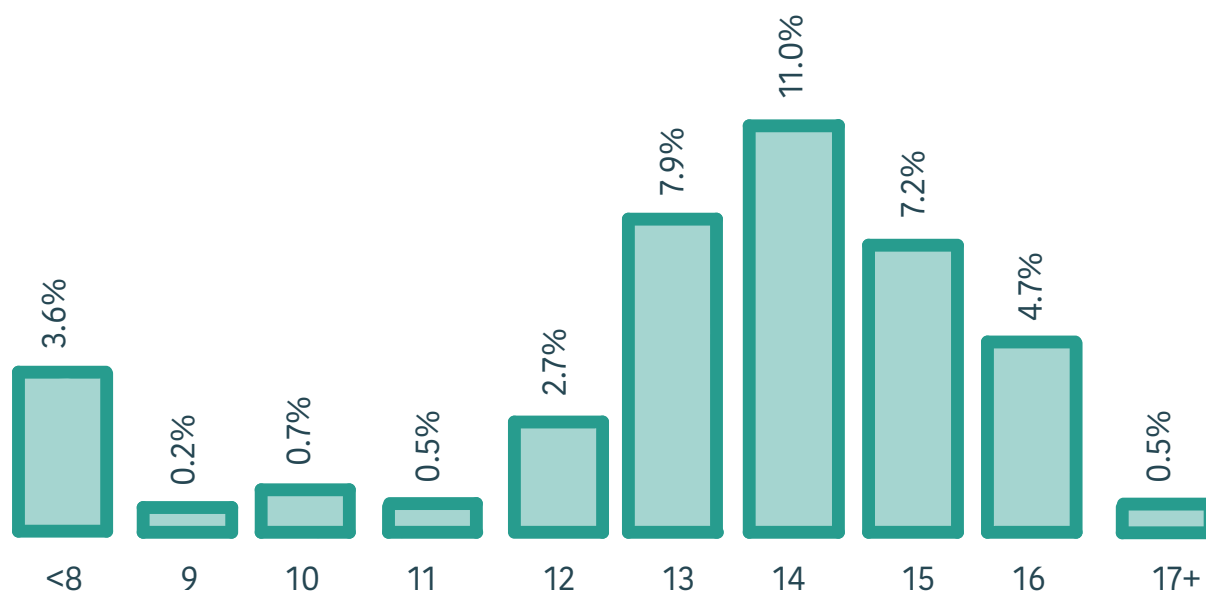
Alcohol Use in the Past 30 Days

Middle School Comparison



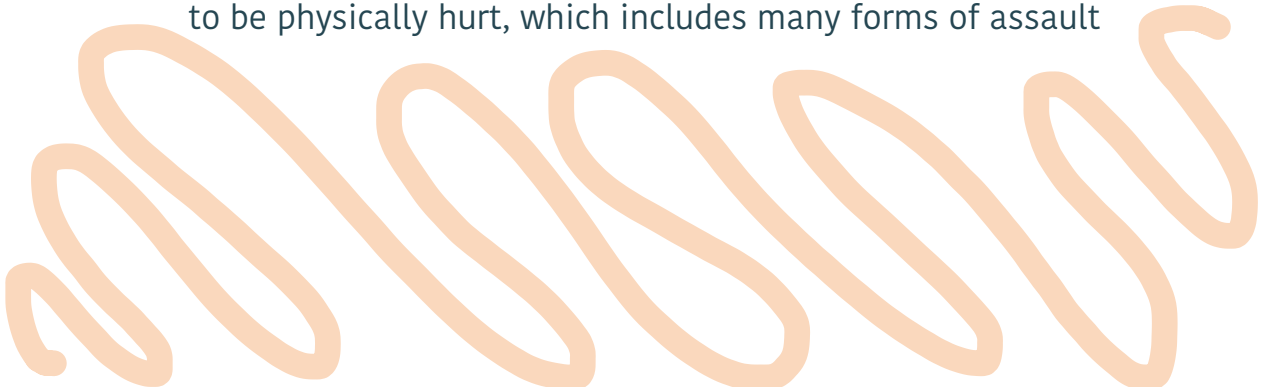
Age of First Alcohol Consumption

In Rhode Island



Statistics

- 22.1% of kids aged 12-14 have used alcohol at least once in their life
- 31% underage drinkers paid for their alcohol, and 69% did not pay for it (someone gave it to them, they stole it, or someone else paid for it for them)
- 2 out of 3 teenagers say that they can get alcohol from their home/parents
- More than 40% (4 in 10) kids who drink before 15 will become alcoholics in their future/adulthood
- 1 in 10 people aged 12 years old to 20 years old meet the criteria of alcohol use disorder
- 30.4% of underage drinkers were drinking in their own home, and 53.4% were drinking in someone else's home
- Underage drinking contributes to the triple in rate of death from young teen years to early adult life
- 33.33% of teen traffic deaths are because or related to the use of alcohol
 - Certain genetics have been shown to increase someone's chance at developing an alcohol addiction in the range of 40%-60%
- By the ages of 18-20, 80% of people say that they have had at least one or more alcoholic beverages
- Alcohol consumers aged 12-20 years drink an average 4.9 drinks over an average of 5.9 days out of each month
 - Between the ages of 9 and 13, kids think that drinking is okay
 - At the ages of 15-17, alcohol use doubles
 - Alcohol dependence is highest in people aged 18 years to 24 years
- Teens who are drinking at the age of 15 or younger are 12 times more likely to be physically hurt, which includes many forms of assault



Sources

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About the Authors and Project

For our silver award, we really wanted to do something that we have been effected by. Many of our friends and family have struggled with drug or substance abuse in one shape or another, which led us to our project idea.

We hope that you found the booklets informative and helpful, and we put lots of time into them to make sure that they looked the best they could.

As the authors and creators of these booklets, we had a lot of fun! Thanks for checking out the project and supporting what we are doing.



