Chapter 13

Substance-related Disorders

1. What things or experiences do you use to alter your mood?

3 Types of Addictions

- Arousal
- Satiation
- Fantasy

Milkman and Sunderwirth in Craving For Ecstacy quote in
Carnes, P. J. (1991). *Don't call it love: Recovery from sexual addiction*. New York: Bantam.

Arousal Additions

- Compulsive gambling
- Stimulant drugs
- Sex
- High-risk behaviors

Milkman and Sunderwirth in Craving For Ecstacy quote in
Carnes, P. J. (1991). *Don't call it love: Recovery from sexual addiction*. New York: Bantam

Satiation Additions

- Compulsive overeating
- Alcohol
- Depressant Drugs

Milkman and Sunderwirth in Craving For Ecstacy quote in
Carnes, P. J. (1991). *Don't call it love: Recovery from sexual addiction.* New York: Banta

Fantasy addictions

- Psychedelics
- Marijuana
- Artistic and mystical preoccupation

Milkman and Sunderwirth in Craving For Ecstacy quote in
Carnes, P. J. (1991). *Don't call it love: Recovery from sexual addiction*. New York: Bantam.

Usage

- 51% of Americans have used drugs for nonmedical purposes

- Over one quarter have abused or been dependent on drugs during their lifetime.

Key Terms

- Substance intoxication – Temporary behavioral or psychological changes due to substance accumulation

- Tolerance –increase amount used to achieve the same effects

- Substance withdrawal –Physical and psychological disturbances when substance is discontinued.
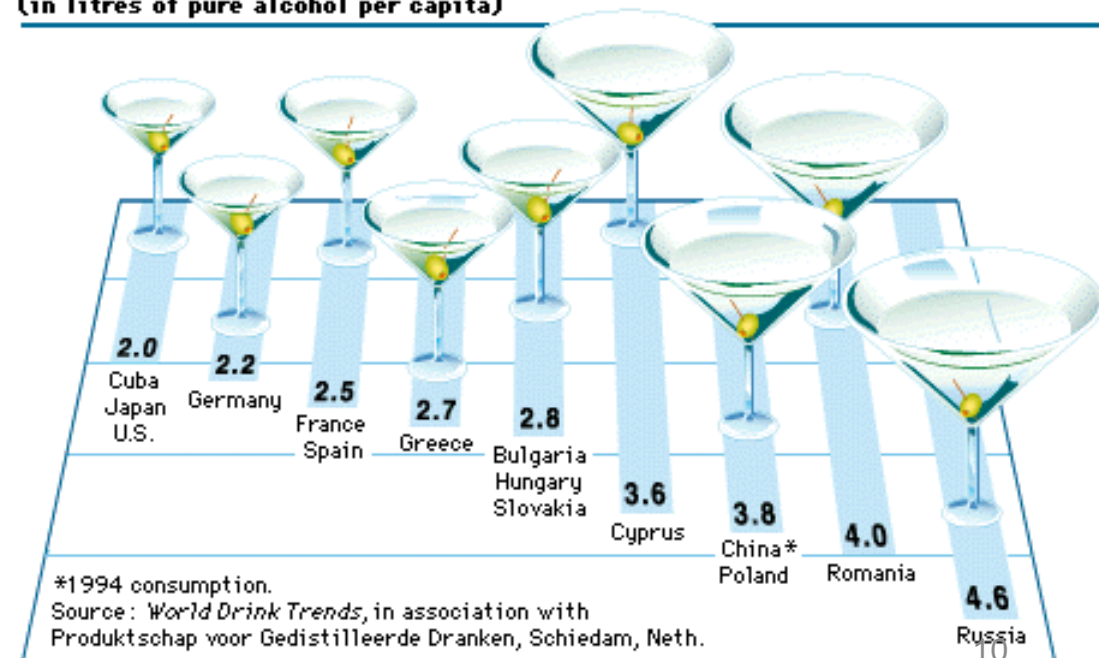
Substance Use Disorders

- Substance abuse - Maladaptive substance use that leads to significant impairment or distress

- Substance dependence - Addiction

DSM-IV Substance Dependence

- Loss of control
- Impairment of functioning (consequences)
- Physical or emotional adaptation (compulsion)

Leading Spirits–Consuming Countries in 1995
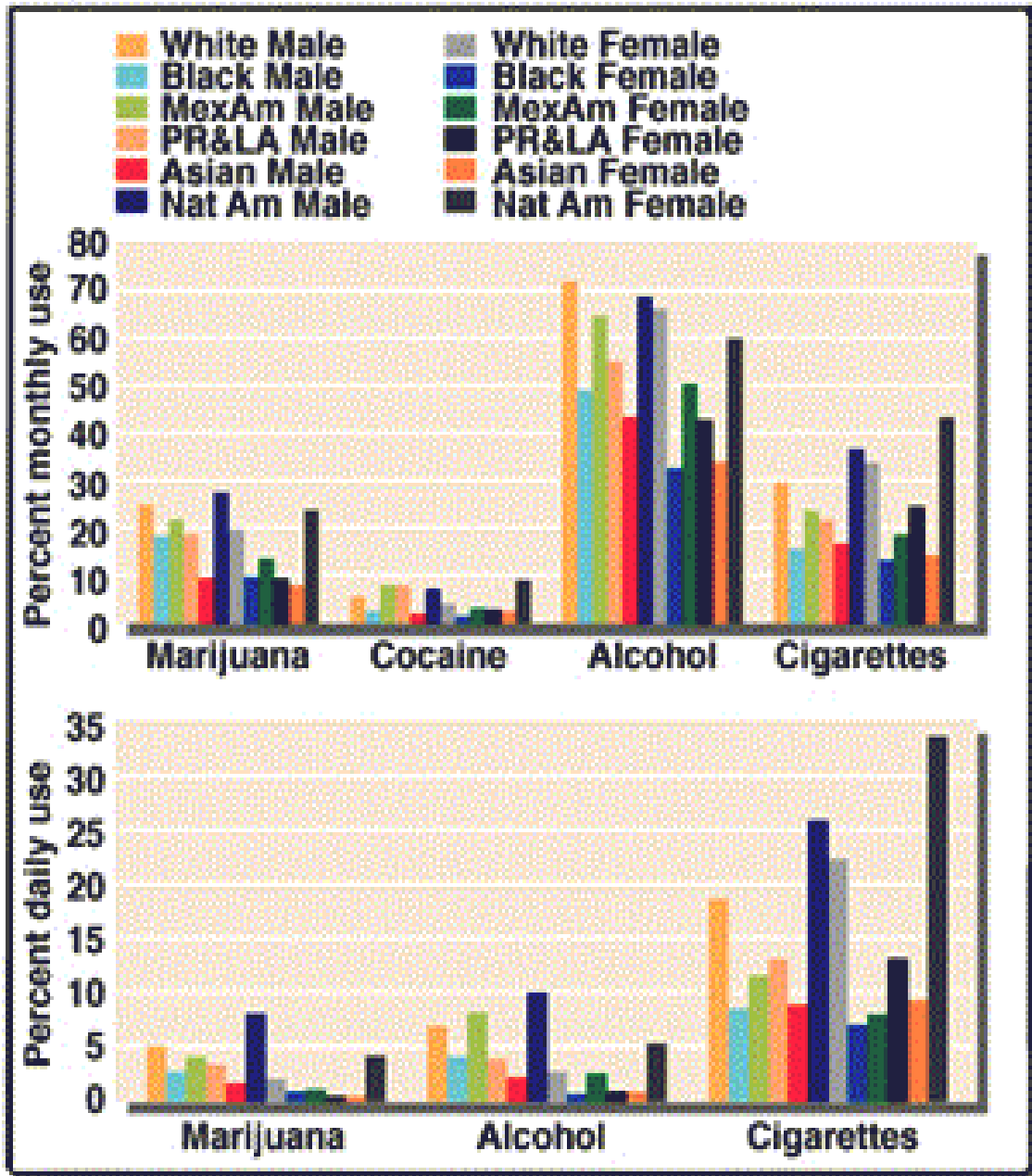(in litres of pure alcohol per capita)

2.0 Cuba Japan U.S.
2.2 Germany
2.5 France Spain
2.7 Greece
2.8 Bulgaria Hungary Slovakia
Cyprus
3.6 China* Poland
3.8 Romania
4.0
4.6 Russia

*1994 consumption.
Source: *World Drink Trends*, in association with
Produktschap voor Gedistilleerde Dranken, Schiedam, Neth.

©1998 Encyclopaedia Britannica, Inc.

Neuro-adaptation

Changes in brain due to chronic exposure

Monthly and Daily Use of Various Drugs

The Beauty of Drunk

The Beauty of Drunk

2. Is alcohol abuse?

1. A disease

2. A matter of choice

3. Both

Explain your reason for your choice

Medical Model

- Been most influential
- Addict:
  ✔
  - victim
  - patient with a disease,
  - in need of medical or psychiatric treatment

Stanton Peele's on Disease Model

- **Increases addictive behavior**
- **Excuses uncontrolled behaviors**
- **Interprets people's lack of control**
- **As nothing they can do**

3. Which of these is most addictive?

- Heroin
- Smoking tobacco
- Pornography
- Explain your reason for your choice

http://www.girandoilmondo.it/images-articles/ComputerAddiction.png

http://peterpereira.com/images/heroin.jpg   http://www.stop-addiction.org/images/addiction/addiction_250x251.jpg

Criteria for Impact of Psychoactive Drugs

- Route of administration
- Ability to enter brain
- Interaction with receptors in the brain
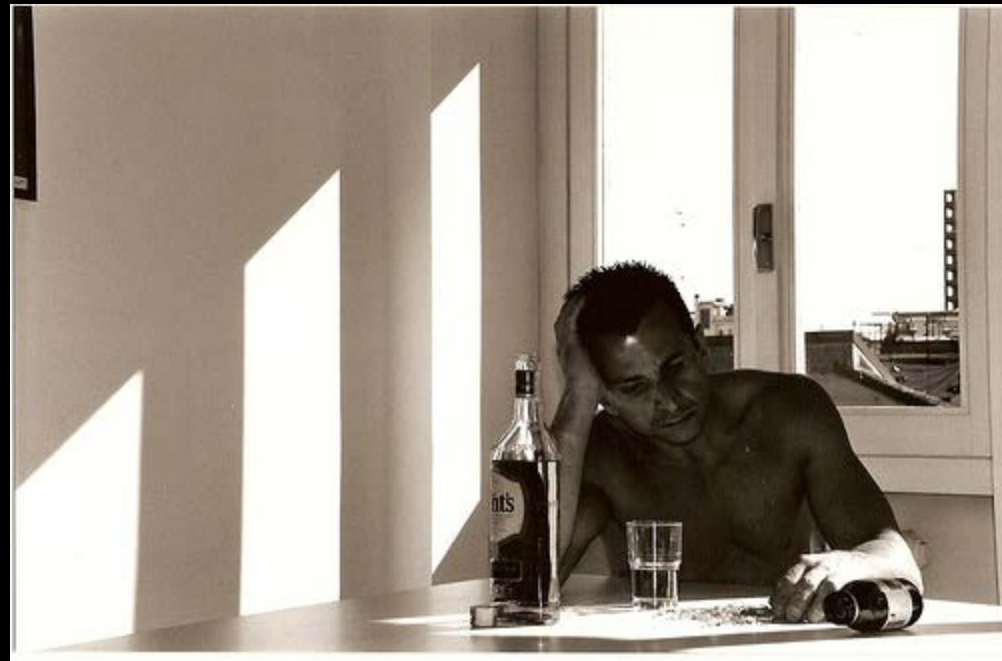- Speed of deactivation
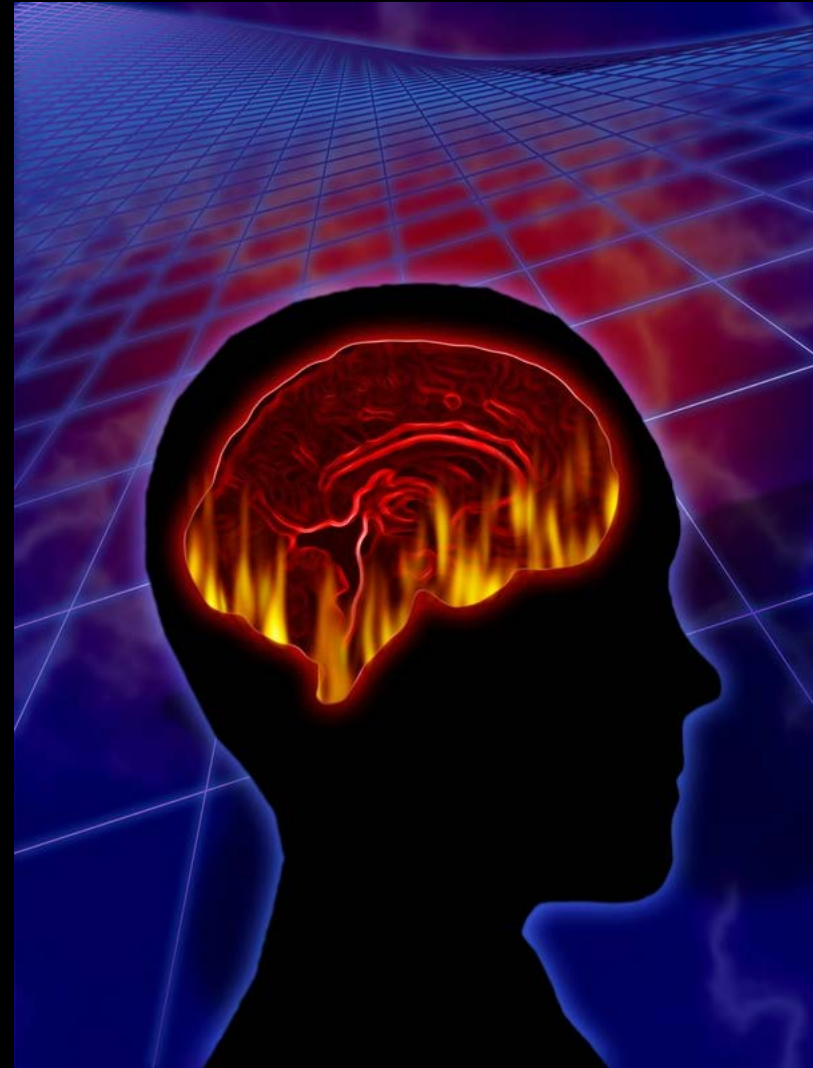
Children of Alcohol Dependent Parents Risk?

Four times more likely than the general population

Self-medication View

- Drugs taken to correct some biochemical problem

- Drugs may alleviate the emotional distress associated with such states

Opponent-Process Model of Addiction

- **Time 1:** no craving for the drug
- **Time 2:** exposure to the drug
- **Time 3:** increased craving for the drug
- **Negative reinforcement:** People continue to take drugs to avoid withdrawal craving

Terms

- **Affective Pleasure:** pleasure from drug
- **Affective Tolerance:** lessoning of the pleasure with repeated exposure
- **Affective Withdrawal:** discomfort when drug is no longer available
- **Affective Contrast:** Increase in unpleasant state and lessoning of pleasant effects of drug with repeated exposure

Conditioned Craving

- Classical conditioning of CS to UCR so that CS elicits a response of craving
- CS could be a bar, party, smoke, etc.
- UCS – smell of chocolate
- UCR– craving
- CS – party
- CR-- craving

4. How many drinks can one have per week and still be a moderate drinker?

Patterns of Use and Abuse

- Approximately 5% of Americans are considered heavy drinkers.

- One in seven has history of alcohol abuse or dependence.

Disinhibition

- Alcohol first depresses
- Inhibitory brain centers
- Impacts
  - Sex
  - Anger

http://www.mediccast.com/blog/wp-content/uploads/2007/01/teen-drunk.jpg

Immediate Effects

- Sedating
- Potentially Fatal Excess
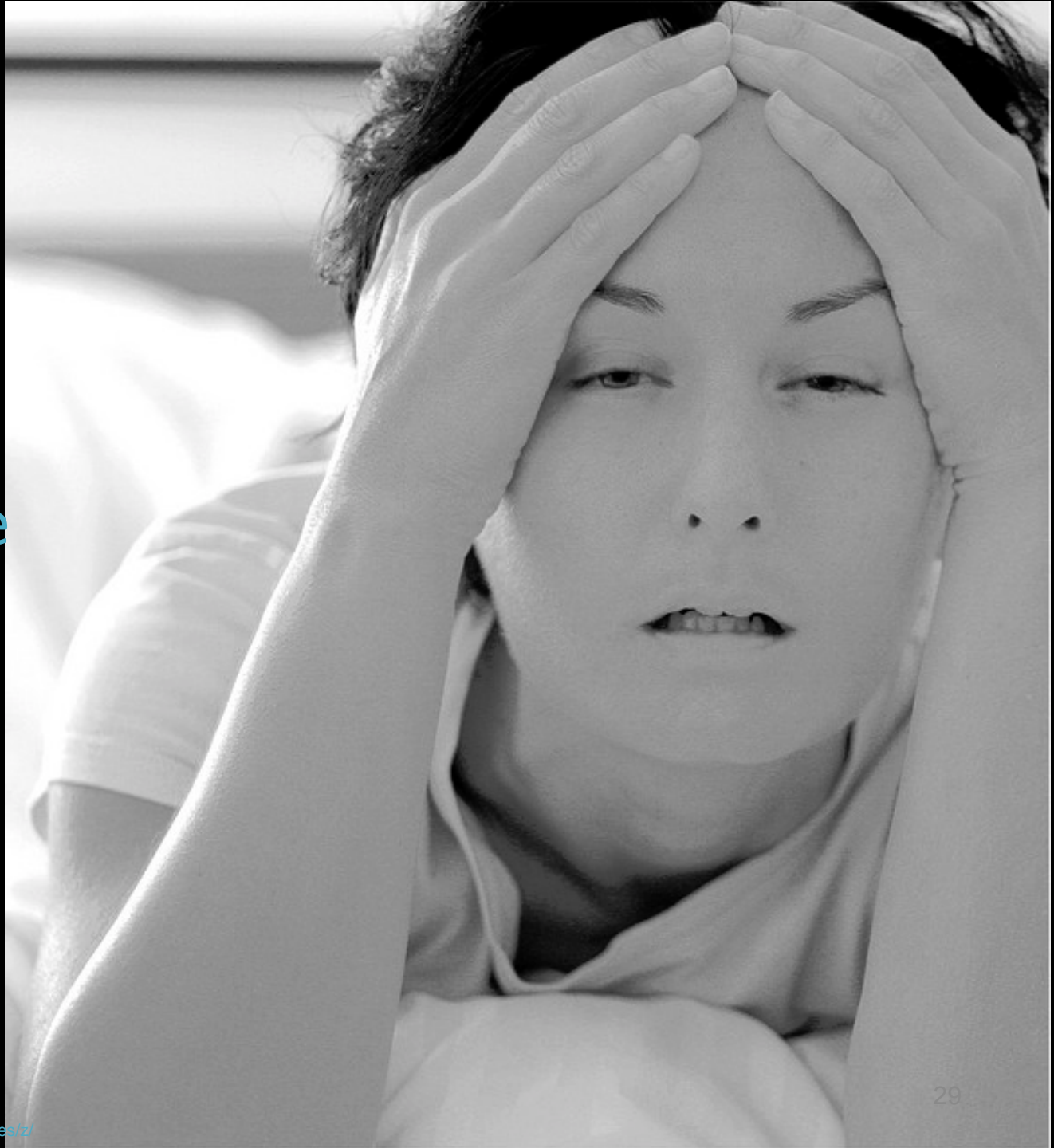- Potentiation
- Hangover

Long-Term Effects

Tolerance

Heavy drinkers tend to increase intake

Increasing likelihood of bodily damage

Long-Term Effects

- Dementia:
  - Wernicke's
  - Korsakoff's
- Cirrhosis of liver
- Zinc deficiency
- Nutritional imbalance, especially thiamin deficiency
- Risk for osteoporosis, cancers

Theories

- Biological
  - Runs in families
  - Genetic markers and genetic mapping
- Psychological
  - Behavioral - reinforcement & observational learning underlie expectancy model
- Sociocultural
  - Family, community, & cultural stressors
  - Children of alcoholics at greater risk

Delirium tremens (DT's)

- Physical withdrawal symptoms from alcohol
  - Nausea
  - Weakness
  - Anxiety
  - Tremors
  - Rapid heartbeat
  - Disturbed sleep
  - Hallucinations
  - Disorientation
  - Confusion
  - Agitation

Alcoholism Subtypes

- **Young Adult :** 31.5 % of U.S. alcoholics. low rates of co-occurring substance abuse and other mental disorders, a low rate of family alcoholism, and who rarely seek any kind of help for their drinking.

- **Young Antisocial :** 21% of U.S. alcoholics. Tend to be in their mid-twenties, early onset of regular drinking, and alcohol problems. 50+ from families with alcoholism, ~50% have a psychiatric diagnosis of Antisocial Personality Disorder. Many have major depression, bipolar disorder, and anxiety problems. More than 75+% smoked cigarettes and marijuana, and many also had cocaine and opiate addictions. >1/3 seek help

- **Functional :** 19.5 % of U.S. alcoholics. Typically middle-aged, well-educated, with stable jobs and families. About one-third have a multigenerational family history of alcoholism, about one-quarter had major depressive illness sometime: in their lives, and nearly 50 % were smokers.

- **Intermediate Familial** 19 % of U.S. alcoholics. Middle-aged, with about 50 % from families with multigenerational alcoholism. Almost half have had clinical depression, and 20 % have had bipolar disorder. Most of these individuals smoked cigarettes, and nearly one in five had problems with cocaine and marijuana use. Only 25 % ever sought treatment for their problem drinking.

- **Chronic Severe:** 9 % of U.S. alcoholics. Comprised mostly of middle-aged individuals who had early onset of drinking and alcohol problems, with high rates of Antisocial Personality Disorder and criminality. Almost 80 % come from families with multigenerational alcoholism. They have the highest rates of other psychiatric disorders including depression, bipolar disorder, and anxiety disorders as well as high rates of smoking, and marijuana, cocaine, and opiate dependence. Two-thirds of these alcoholics seek help for their drinking problems, making them the most prevalent type of alcoholic in treatment.

Treatment

- Biological
  - Medications to control withdrawal symptoms
  - Medications as aversive agents

- Psychological
  - Aversive conditioning (shock)
  - Cue exposure method
  - Relapse prevention therapy

- Alcoholics anonymous
  - 12-step program; alcoholism as a disease
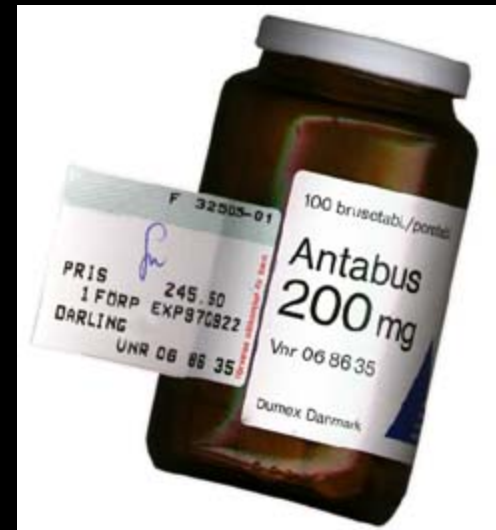 - Spiritually based, social support

34

Treatment

- Cue exposure method:
  - A priming dose is given
  - Initiates craving
  - Practice refusing further alcohol
- Relapse prevention therapy:
  - Not view lapses
  - As signs of certain failure

Disulfiram (Antabuse)

- Drug
- Inhibits the enzyme that aids the metabolism of alcohol.
- Drinking alcohol
- Causes nausea

Naltrexone

- **Opiate antagonist**
- **Blocks or reduces opioid transmission in the brain.**
- **ReVia**

Campral

- Acamprosate
- Equated to anti-depressants
- Anti-relapse medication
- May modify GABA
- May reduce pleasurable effects of alcohol ingestion
- Used only by people who have stopped drinking
- http://www.doctordeluca.com/Documents/AcamprosateSummary.htm

Prognosis

- **No treatment is:**
  - **more effective than another**
  - **or than no treatment**

Factors That Predict Recovery

- Strongly aversive drinking experience

- Substitute dependency

- New social support

- Joining an inspirational group

5. Is the choice to not consume alcohol similar to the choice to say not eat meat?
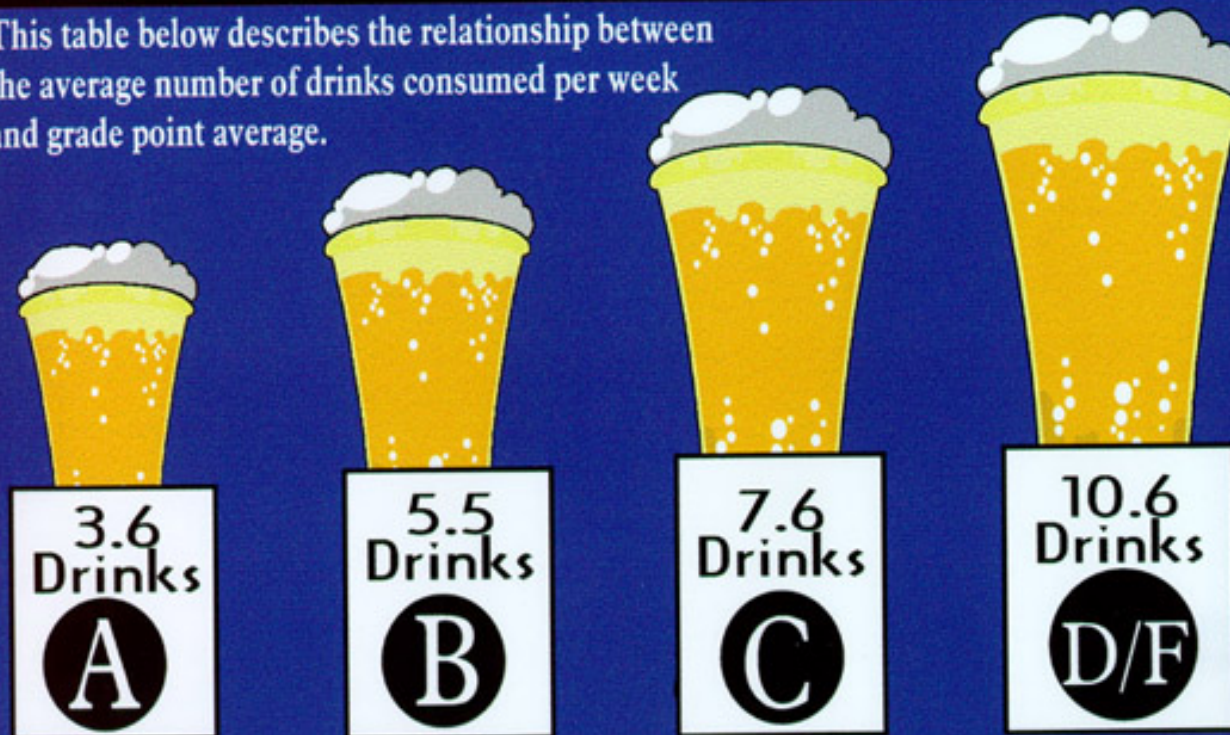
- How is it the same and how is it different

http://www.grainprocessing.com/images/Beverage%20Alcohol%20Collage.jpg

Alcohol and Grades

ALCOHOL & ACADEMIC PERFORMANCE

This table below describes the relationship between the average number of drinks consumed per week and grade point average.

3.6 Drinks A

5.5 Drinks B

7.6 Drinks C

10.6 Drinks D/F

*Sponsored by FAU Center for Alcohol & Other Drug Prevention

Fetal Alcohol Syndrome

- Growth retardation below the 10th percentile
- Neurological abnormalities
- Developmental delays
- Behavioral dysfunction
- Intellectual impairment
- Skull or brain malformations
- Characteristic face
  - Short eye openings
  - Thin upper lip
  - Elongated, flattened midface and groove in the middle of the upper lip

•Fetal Alcohol Study Group of the Research Society on Alcoholism in 1980 (4), and modifications were proposed in 1989 by Sokol and Clarren (5).

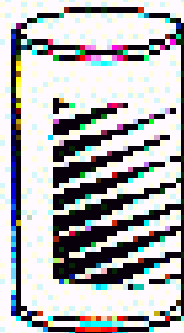Components of Fetal Alcohol Syndrome Case Finding
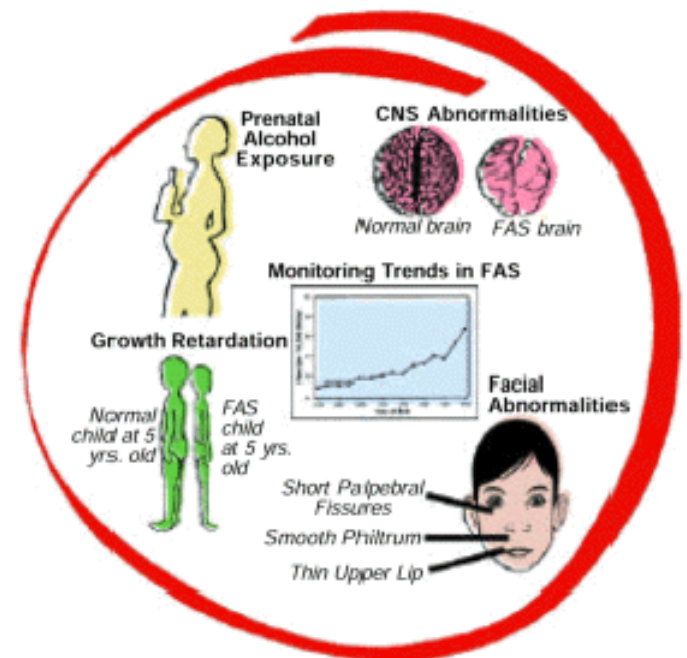
Drinks Equal

As a guide, these drinks have the <u>same</u> alcohol content:

1 mug of beer (330mls) = 1 can of beer (330mls) = 1 glass of table wine (150mls) = 1 glass of sherry (150mls) = 1 shot of whisky (45mls)
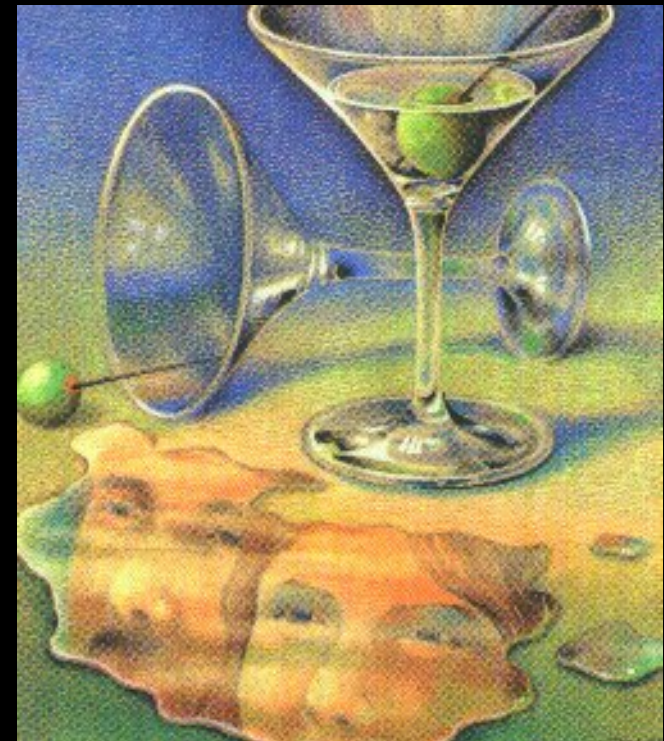
Alcohol Content

Types of drink Approximate alcohol content
Beer   5%
Table wine   10%
Sherry/Port   20%
Spirits (eg. Gin/Whisky/Brandy)   40%

Impact of Alcohol

ALCOHOL CONCENTRATION CHART

DRINKS*	BODY WEIGHT IN POUNDS								BOAT OPERATION
	100	120	140	160	180	200	220	240	
1	.04	.03	.03	.02	.02	.02	.02	.02	BE CAREFUL
2	.08	.06	.05	.05	.04	.04	.03	.03	
3	.11	.09	.08	.07	.06	.06	.05	.05	OPERATION IMPAIRED
4	.15	.12	.11	.09	.08	.08	.07	.06	
5	.19	.16	.13	.12	.11	.09	.09	.08	
6	.23	.19	.16	.14	.13	.11	.10	.09	
7	.26	.22	.19	.16	.15	.13	.12	.11	DO NOT OPERATE
8	.30	.25	.21	.19	.17	.15	.14	.13	
9	.34	.28	.24	.21	.19	.17	.15	.14	
10	.38	.31	.27	.23	.21	.19	.17	.16	

*Subtract .015% for each hour of drinking.
(1 glass wine = 1 bottle of beer = 1 highball)

46

Blood Test

courtesy of Athens Photo News

Is the use of drugs ever appropriate?

Beer Goggles

BEFORE 6 BEERS
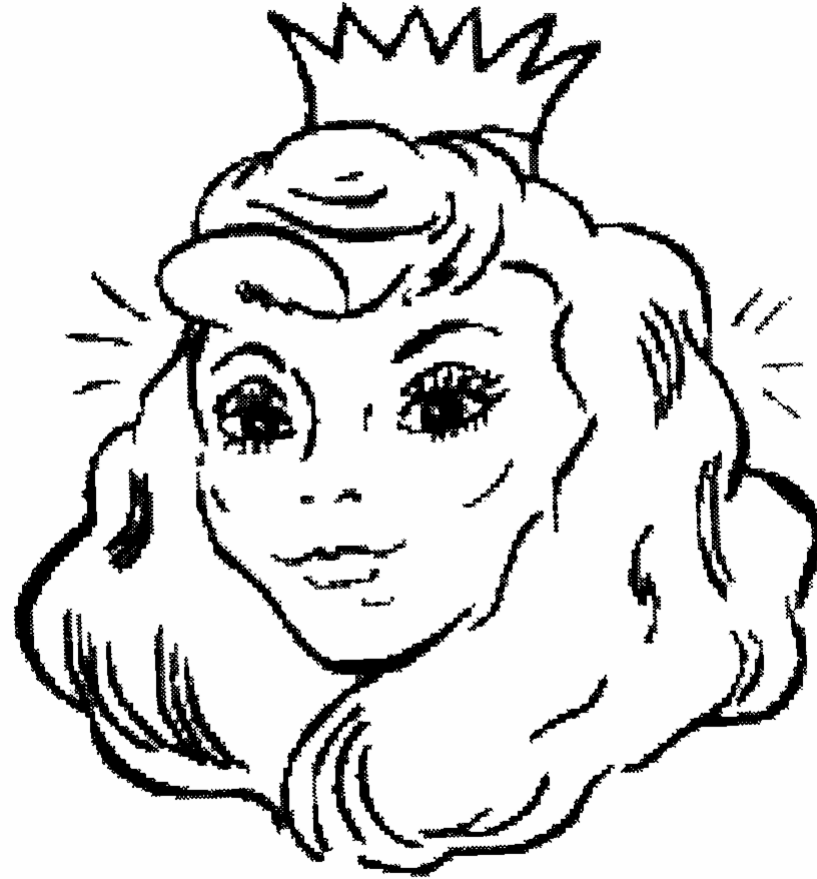
AFTER 6 BEERS

AFTER 6 BEERS

BEFORE 6 BEERS

52

Difficult things to say when Drunk

- Indubitably
- Innovative
- Preliminary
- Proliferation
- Cinnamon

Very Difficult things to say when Drunk

- Specificity
- British Constitution
- Passive-aggressive disorder
- Loquacious
- Transubstantiate

Impossible Things to Say when Drunk

- Sorry, you are not really my type
- Nope, no more booze for me
- Thanks, but I don't want to have sex
- Good evening officer, isn't it lovely out tonight
- Oh, I just couldn't. No one wants to hear me sing
- Sorry I'm being such a jackass

56

Beer and Football

- **Many Sports Fans Exit Stadium Drunk Study Shows 8% of Fans Have Blood Alcohol Levels That Are Over the Legal Limit**
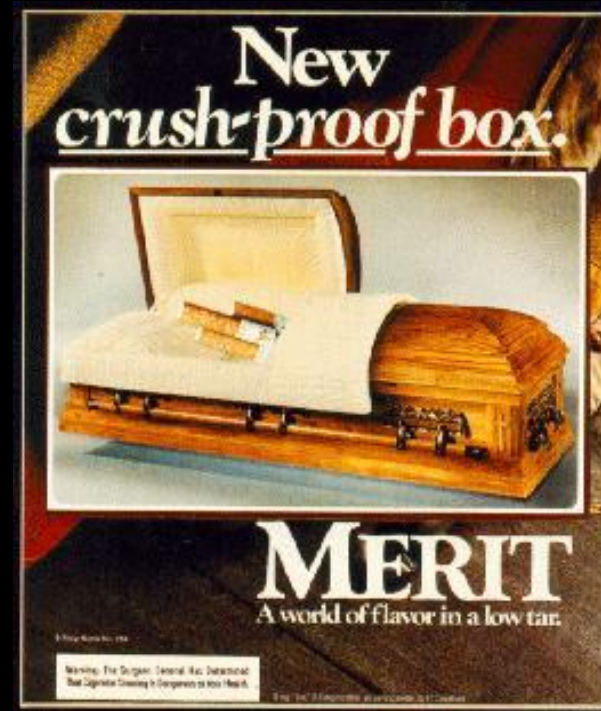
Other Substances

Smoking

New crush-proof box.

MERIT

A world of flavor in a low tar.

- **Chief single most avoidable cause of death in our society**
  - **350,000 related deaths**
  - **Compared with 100,000 alcohol related deaths**
  - **Compared with 35,000 Aids related deaths**
  - **Contributes to 30% of all cancer deaths**
  - **Contributes to 30% of all cardiac vascular deaths**

6. If you consume caffeine 200mg at 10 in the morning, about how much will be in your system at 10PM

- None
- 10 mg
- 25 mg
- 50 mg
- 100 mg

Caffeine Half-life

- Between 3-7 hours
- Assuming 4 hours then

10:00AM	200 mg
2:00 PM	100 mg
6:00 PM	50 mg
10:00PM	25 mg

Stimulants

- Amphetamines
- Cocaine
- Caffeine

Effects

- **Amphetamines**
  - Euphoria
  - Increased confidence
  - Talkativeness
  - Energy
  - Addictive
- **Cocaine**
  - Intense
  - brief stimulating effects
- **Caffeine**

Cannabis

- Marijuana
- THC
- Hashish
- Effects:
  - Altered perception
  - Altered bodily sensations
  - Intoxication
  - Dependence

Cannabis may increase risk of Psychotic Illness Later in Life by 40%

- Moore, T. H., Zammit, S., Lingford-Hughes, A., & Barnes, T. R. (2007). Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. *The Lancet* , *370*(9584), 319-328.

  - Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review
    Theresa HM Moore, TH Stanley Zammit, Anne Lingford-Hughes, Thomas RE Barnes, Peter B Jones, Margaret Burke, Glyn Lewis
    The Lancet - Vol. 370, Issue 9584, 28 July 2007, Pages 319-328

Marijuana Component Opens the Door for Virus That Causes Kaposi's Sarcoma

- http://cancerres.aacrjournals.org/cgi/content/abstract/67/15/7230?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=marijuana&searchid=1&F

- IRSTINDEX=0&volume=67&issue=15&resourcetype=HWCIT

- Cancer Research 67, 7230-7237, August 1, 2007: Cannabinoid Modulation of Kaposi's Sarcoma–Associated Herpesvirus Infection and Transformation

- **Xuefeng Zhang[1], Jian Feng Wang[1], George Kunos[3] and Jerome E. Groopman[1,2]**

Hallucinogens

- LSD

- Psilocybin

- PCP

Effects

- Hallucinogens - PCP, LSD - abnormal perceptual experiences (hallucinations, illusions)

Opioids

- Natural:
  - Opium
  - Morphine
  - Heroin
- Synthetic:
  - Methadone
  - Codeine
- Effects
  - physical rush
  - intense bodily sensations
  - life-threatening withdrawal symptoms

http://www.flickr.com/photos/linus_art/108272788/sizes/m/

Sedatives, Hypnotics, and Anxiolytics

- **Sedatives** calming effects on the central nervous system

- **Hypnotics** induce sleep

- **Anxiolytics** are antianxiety medications

Treatment

- Biological
  - Substances to block or reduce craving
- Behavioral
  - Contingency management
- Cognitive
  - Help modify thoughts, expectancies, behaviors concerning drugs

http://www.flickr.com/photos/kukhahnyoga/4468087649/sizes/m/

Final Exam

Monday 8:00 AM
Decker 45
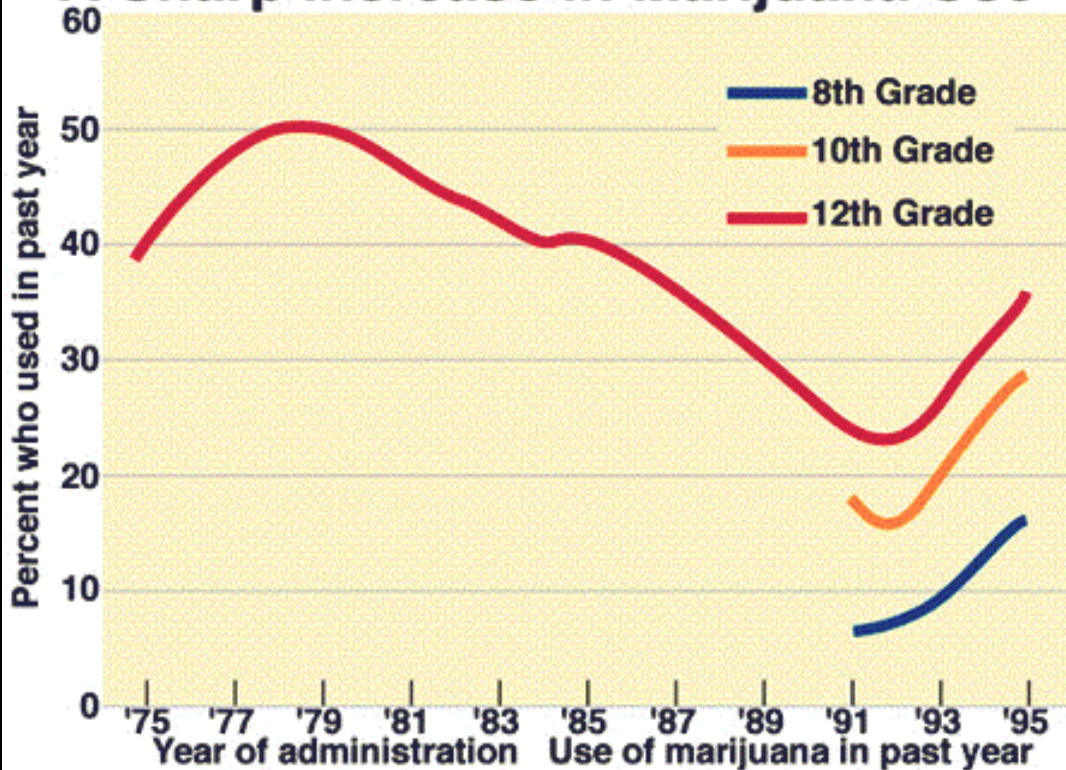
Christian Value System

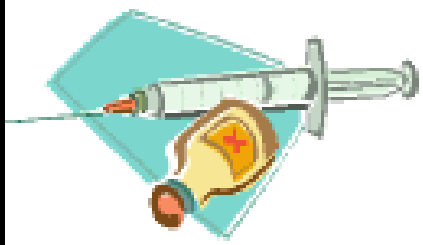- Using a Christian value system, explain the rationale for--if and when the use of drugs is appropriate.

2.5 to 3 million addicts and only 1.7 in treatment??

- **Government--tax based money**
- **Foundations and churches—contribution based money**

A Sharp Increase in Marijuana Use

SUBSTANCE USE DISORDERS

SUBSTANCES OTHER THAN ALCOHOL
Stimulants
Amphetamines
Cocaine
Cannabis
Hallucinogen
Heroin and Opioids
Sedatives, Hypnotics
Anxiolytics

ALCOHOL
Patterns of Use and Abuse
Effects of Alcohol Use
Immediate Effects
Long-Term Effects

TREATMENT FOR SUBSTANCE
ABUSE AND DEPENDENCE
Biological
Behavioral
Cognitive