



Women and Addiction

Donna Festa, LCSW

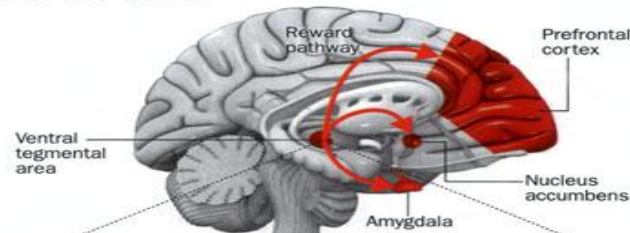
Addiction

- ▶ A) Biology
- ▶ B) Psychology
- ▶ C) Social
Environment

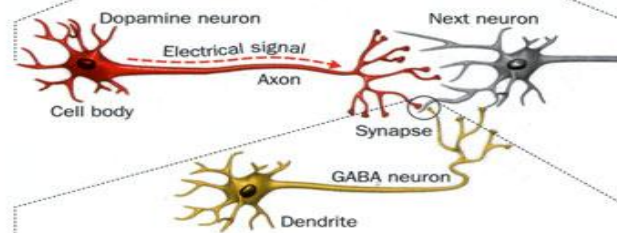
Biology

What happens in the brain

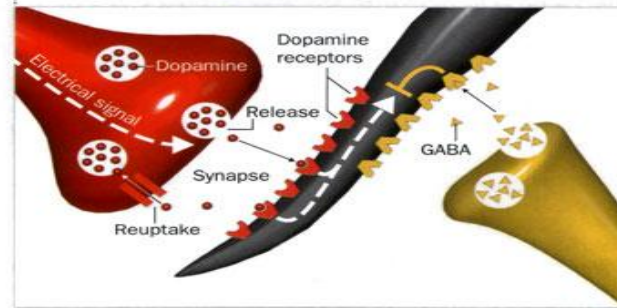
1. We feel good when neurons in the reward pathway release a neurotransmitter called dopamine into the nucleus accumbens and other brain areas.



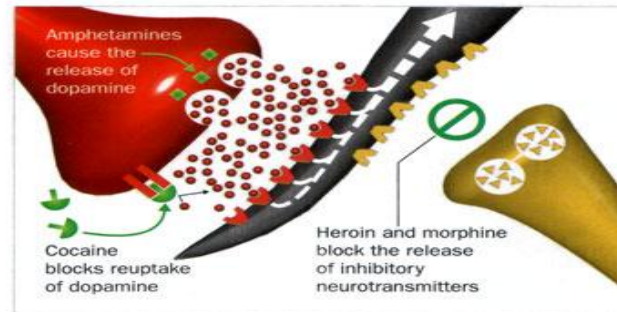
2. Neurons in the reward pathway communicate by sending electrical signals down their axons. The signal is passed to the next neuron across a small gap called the synapse.



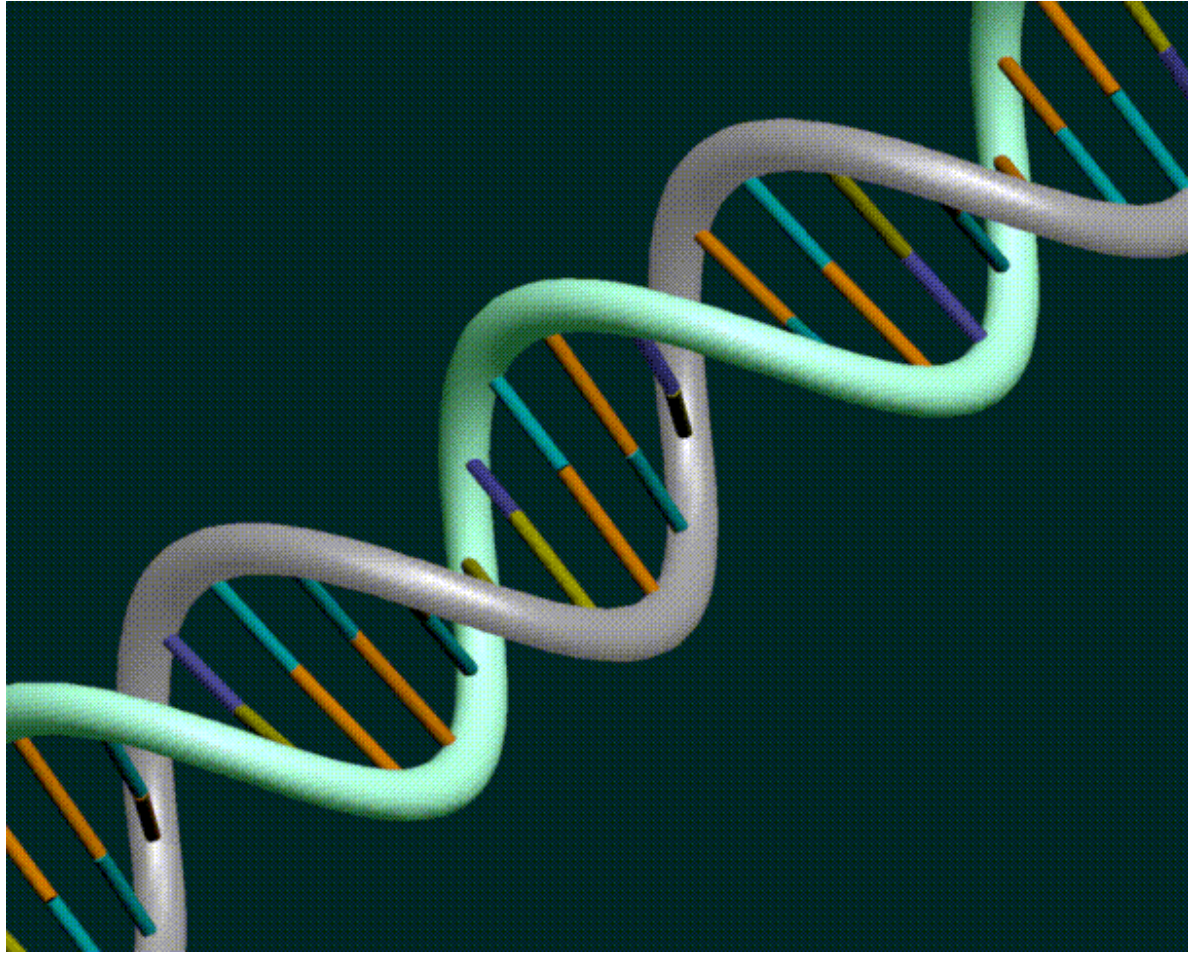
3. Dopamine is released into the synapse, crosses to the next neuron and binds to receptors, providing a jolt of pleasure. Excess dopamine is taken back up by the sending cell. Other nerve cells release GABA, an inhibitory neurotransmitter that works to prevent the receptor nerve from being overstimulated.



4. Addictive substances increase the amount of dopamine in the synapse, heightening the feeling of pleasure. Addiction occurs when repeated drug use disrupts the normal balance of brain circuits that control rewards, memory and cognition, ultimately leading to compulsive drug taking.



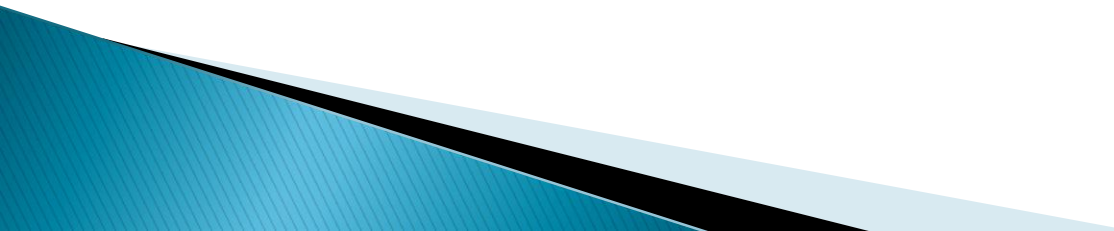
Biology



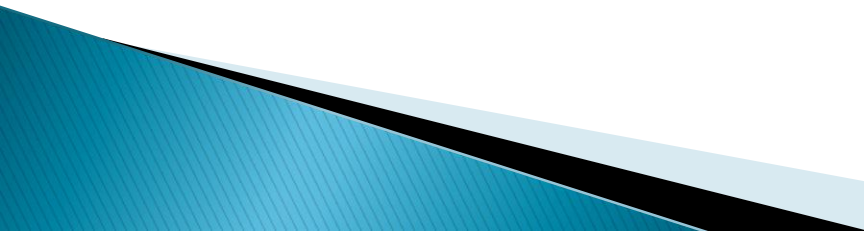
Genetics

- ▶ **The genome project as well as separate studies specific to the biologic origins of addiction have led to the discovery of several different genes which are responsible for addictive behaviors and are transmitted via parent to child.**


Genetics

- ▶ **There is a gene that is associated with high alcohol consumption**
 - ▶ **However this gene is not the same gene which is responsible for alcoholism**
 - ▶ **Boris Tabakoff PhD identified the different genes**
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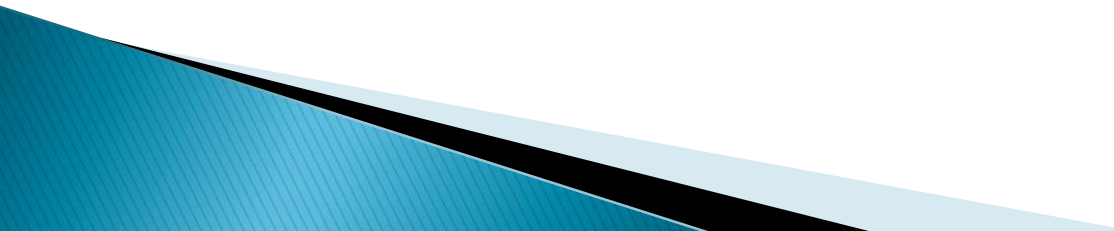
Genetics

- ▶ Research – Research – Research
 - ▶ Conducted a Genome–Wide Association Study of composite substance–dependence phenotype
 - ▶ **A composite something made of parts**
 - ▶ **A phenotype is any observable characteristic**
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Genetics

- ▶ So in English they looked at parts of the gene that had an observable characteristic for substance dependence associated with 6 different addiction diagnosis
 - ▶ Nicotine
 - ▶ ETOH
 - ▶ Marijuana
 - ▶ Cocaine
 - ▶ Opiates
 - ▶ Other drugs
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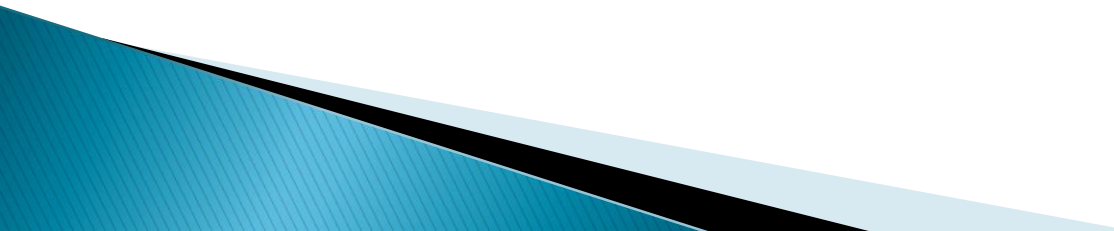
What they found

- ▶ On the chromosome 11 the PKNOX2 gene in White Women had a strong association with addiction
 - ▶ Women who carry this genotype were at risk of being diagnosed with at least 2 of the 6 categories of Substance Abuse
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What they found

- ▶ They also found that there was no significant association between PKNOX2 and addiction in White or Black men or Black Women

Addiction

- ▶ There is not one gene responsible for addiction in all populations. Addiction is complex involving many different genes in many different populations
 - ▶ What we do know is that genes account for 60% of addiction
 - ▶ 40% is associated with psychological and environmental factors
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Patterns of Use

- ▶ 1. ***USE***- Sporadic Consumption no apparent consequences
- ▶ 2. ***Abuse***- Although the frequency of consumption of alcohol or drugs may vary. Some consequences of that use are experienced by the user

Patterns of Drug Use

- ▶ ***Physical Dependence*** – A state of adaptation that is manifested by a class of specific withdrawal syndromes
- ▶ ***Psychological Dependence***– A subjective sense of a need for a specific substance either for its positive effect or to avoid negative effects associated with abstinence

Patterns of Drug Use

- ▶ ***Addiction-*** a primary chronic neuobiologic disease with genetic, psychosocial and environmental factors influencing its development and manifestations.

Addiction

- ▶ *Addiction*– is characterized by behaviors that include impaired control over drug use, compulsive use and continued use despite harm and craving

Women and Addiction

- ▶ 50 % of the women in the US who use illicit drugs are between the child bearing ages of 15–44
- ▶ One Quarter ($\frac{1}{4}$) of them use Heroin



SKIN CARE BY HEROIN.

*At first you think you can control heroin.
But before long you'll start looking ill, losing weight and
feeling like death.
Then one day you'll wake up knowing that, instead of you
controlling heroin, it now controls you.
So, if a friend offers you heroin, you know what to say.*

HEROIN SCREWS YOU UP!

Women and Addiction

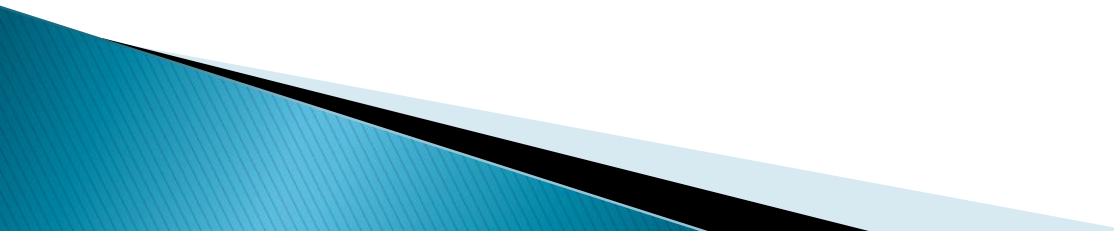
- ▶ You are likely to have a pregnant client or a client with children.



Women and Addiction

- ▶ Perinatal Outcome
- ▶ Preeclampsia – high blood pressure/stroke
- ▶ 3 rd trimester bleeding
- ▶ Malpresentation
- ▶ Passage of Meconium (Meconium is the earliest stools of an infant)
- ▶ Low birth weight
- ▶ Perinatal mortality
- ▶ Puerperal morbidity (Illness arising during the first 10 days of the postpartum period, i.e., a temperature of 38°C (100.4°F) or more on any two days of the first 10)

Women and Addiction

- ▶ Heroin Neonatal
 - ▶ Prematurity
 - ▶ Opiate withdrawal
 - ▶ Postnatal growth deficiency
 - ▶ Microcephaly (An abnormally small head of a newborn, a congenitally small brain)
 - ▶ Neurobehavioral Deficits
 - ▶ SIDS
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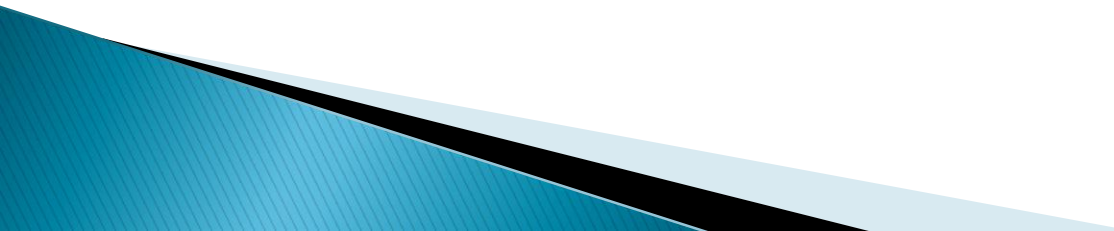
Women and Addiction

- ▶ Marijuana
- ▶ Growth measures in adolescence is smaller than children whose mothers did not smoke weed during pregnancy
- ▶ Children who were exposed to weed in utero have an increased risk of three specific Cancers

Cancers Associated with Weed in utero

- ▶ **Nonlymphoblastic Lymphoma**
Lymphoblastic Lymphoma is an [uncommon](#) form of aggressive Non-Hodgkin Lymphoma (NHL).
- ▶ **Rhabdomyosarcoma**– is a type of [cancer](#), specifically a [sarcoma](#) (cancer of [connective tissues](#)), in which the cancer cells are thought to arise from [skeletal muscle](#) progenitors. [Very RARE](#) Cancer
- ▶ **Astrocytoma**– are [neoplasms of the brain](#) that originate in a particular kind of glial-cells: the star-shaped brain cells called [astrocytes](#)

Perinatal effects of Cocaine

- ▶ Spontaneous abortion
 - ▶ Prematurity
 - ▶ Placental abruption (also known as abruptio placentae) is an obstetric catastrophe (complication of pregnancy), wherein the placental lining has separated from the uterus of the mother
 - ▶ Fetal Demise
 - ▶ Low Birth Weight
 - ▶ Decreased length of head
 - ▶ Decreased circumference of head
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Perinatal effects of Cocaine

- ▶ Cocaine can freely pass the blood/placenta barrier thus causing vasoconstriction
- ▶ The consequence is children exposed during the 9 months have the following deficits
 - ▶ Visual spatial skills
 - ▶ Math skills are lower
 - ▶ Lower IQ scores

Methamphetamine

- ▶ damage the baby's brain even before the embryonic period, according to EurekAlert. The baby may have difficulties with speech, motor skills, social skills and memory

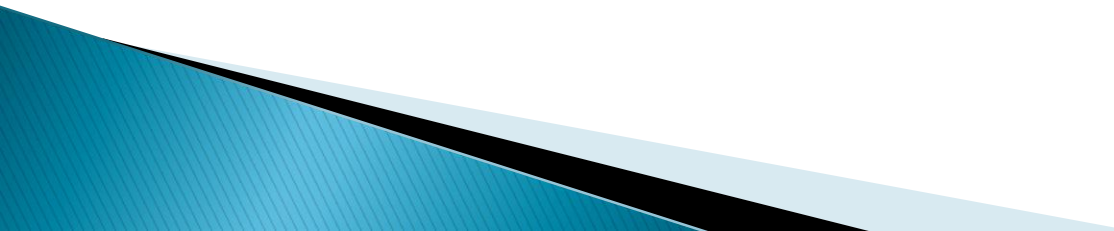
low birth weight, cleft palate and other birth defects

premature labor, miscarriage and placental abruption

Women and Alcohol

- ▶ Lipophilic – Drugs accumulate in Fat
- ▶ Hydrophilic – Drugs concentrate in blood and muscle
- ▶ Why cant women drink men under the table?
- ▶ Well men have larger muscles and more muscle mass thus they have more H₂O than women

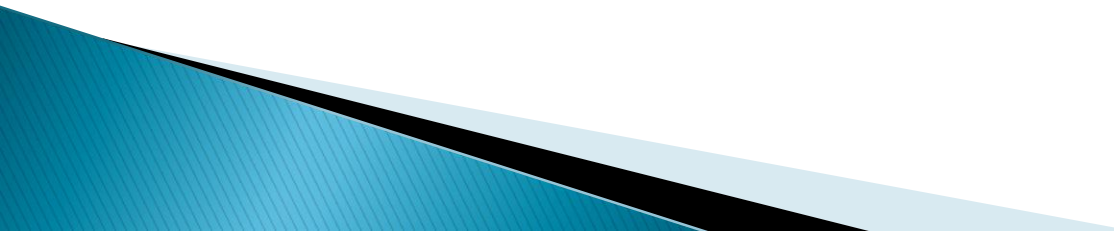
Women and Alcohol

- ▶ Increased sensitivity to alcohol in the brain including the follow damages
 - ▶ Cognitive Psychosocial Performance
 - ▶ Brain Shrinkage
 - ▶ Corpus Callosum coordinating muscles are smaller
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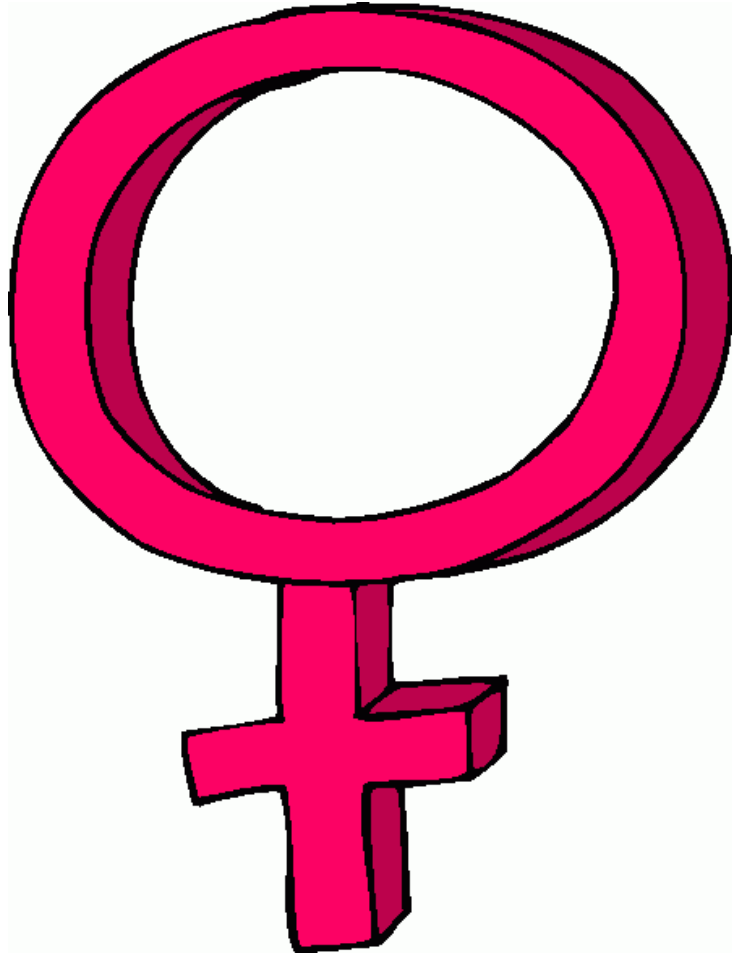
Women and Alcohol

- ▶ Alcohol effects on the liver are more severe in women
- ▶ Develop cirrhosis and hepatitis after a shorter period of time than men
- ▶ Women die at a rate of 50–100% that of men from Alcohol related events and illness
- ▶ Suicide
 - ▶ **Accidents** (although less likely to drive while drunk when they do the risk of fatal accident is much higher)
- ▶ **Circulatory Disorders**
- ▶ **Cirrhosis**

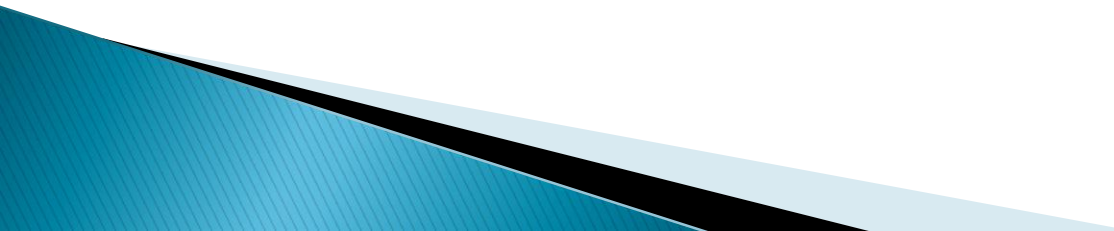
Women and Alcohol

- ▶ Women have less capacity to oxidize ETOH in their stomachs due to diminished activity of gastric alcohol dehydrogenase– an alcohol metabolizing enzyme
 - ▶ Fluctuations of gonadal hormones during menses effect alcohol metabolism
 - ▶ Menstrual disorders are associated with heavy drinking
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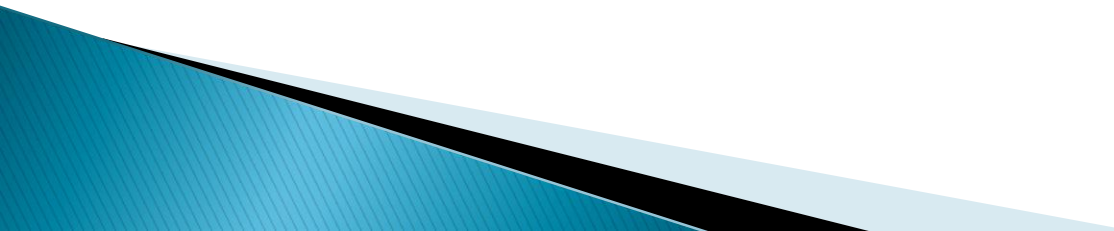
What's so Different about Women?



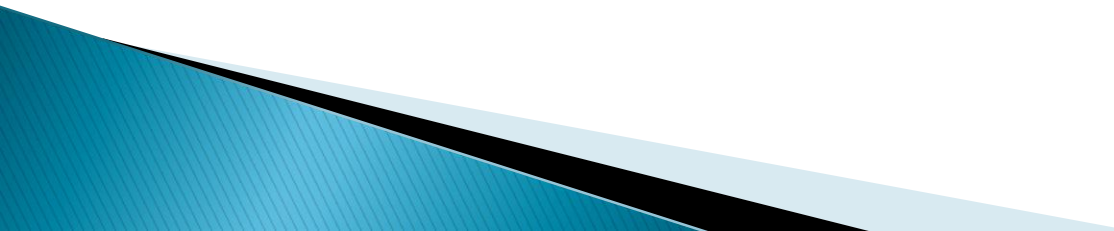
Women in Treatment

- ▶ Women are less likely to enter treatment
 - ▶ However once a woman has committed to treatment the outcome for recovery is equal to that of men
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Factors effecting Treatment

- ▶ History of Victimization
 - ▶ Lower education
 - ▶ Higher rates of co-current mental health dx
 - ▶ Child Care
 - ▶ Pregnancy
 - ▶ Under detection
- 

Women in Treatment

- ▶ Unique Challenges for prevention, intervention and Treatment
 - ▶ 70% of women report a hx of physical and sexual abuse with victimization before the age of 11 and repeatedly occurring
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Women in Treatment

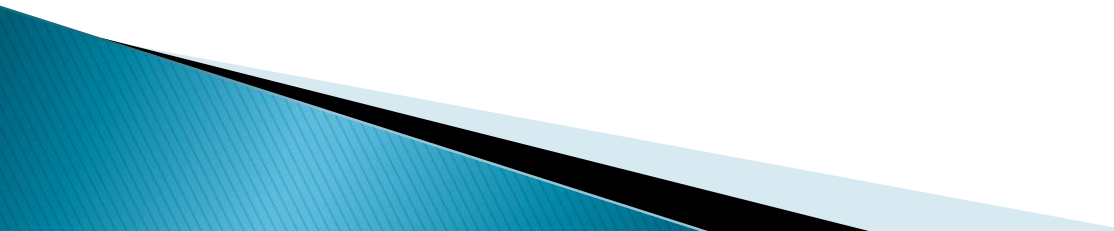
- ▶ Research indicates that women with addiction to alcohol have higher rates of violence in childhood and as adults



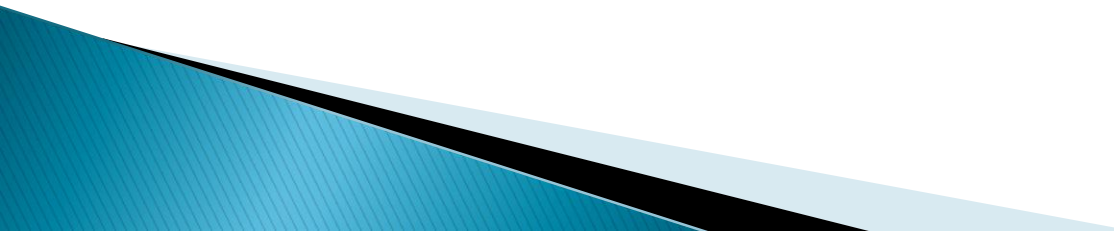
Women in Treatment

- ▶ Require special prevention and treatment approaches as they fear the loss of children and fear the reprisal from partners punishment

Consequences of Addiction for Women

- ▶ Adverse Health
 - ▶ Social Consequences
 - ▶ Criminal Activity
 - ▶ Mental Health Disorders
 - ▶ Unprotected Sex
 - ▶ STD's
 - ▶ HIV
 - ▶ Poor Birth Outcomes
 - ▶ Child Abuse
 - ▶ Child Neglect
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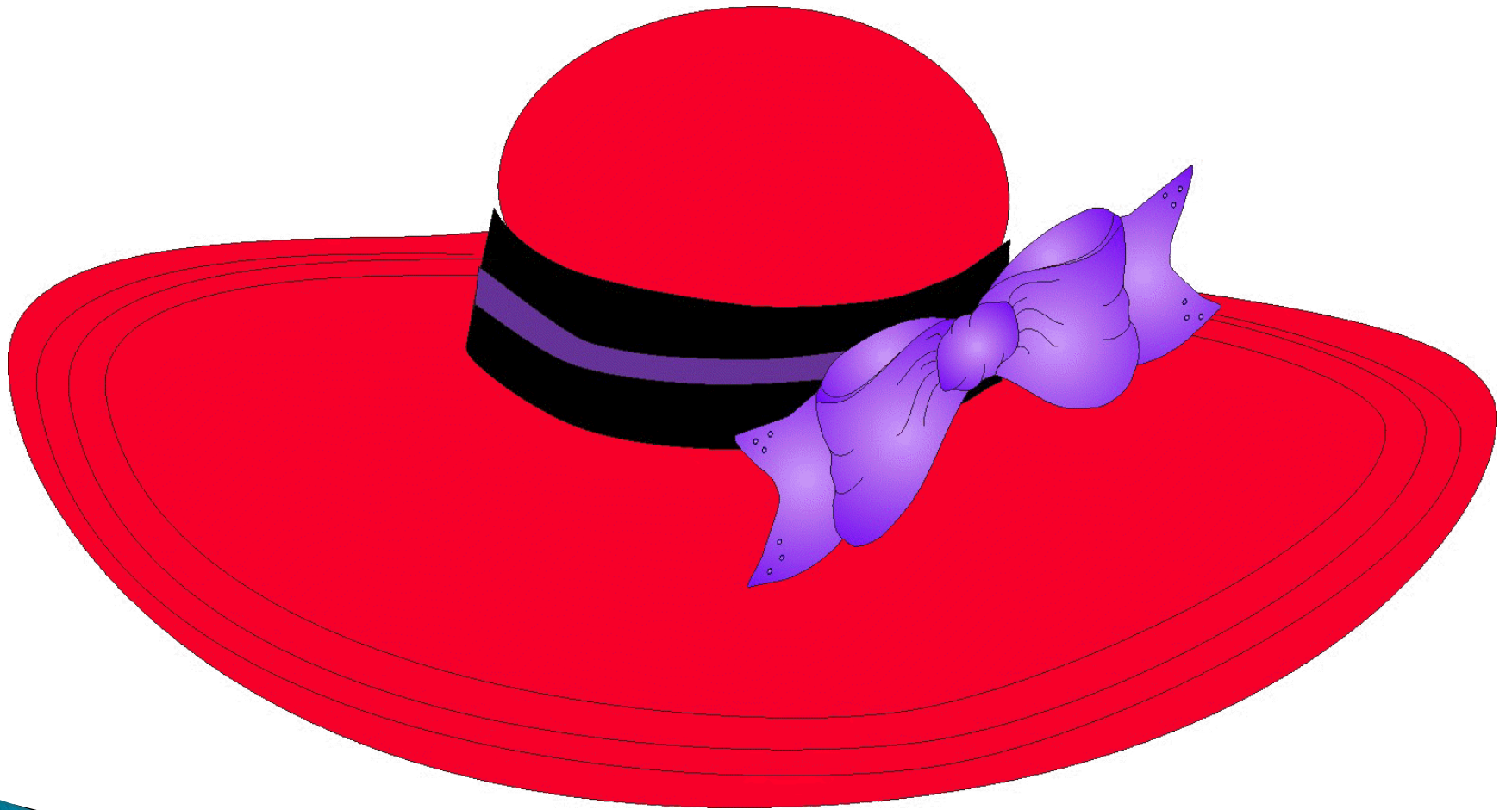
Consequences of Addiction for Women

- ▶ Women who are active are 4 times more likely to have committed a form of criminal activity in the previous year than women who are in recovery or non addicted
 - ▶ Women who are active are 6 times more likely to have been arrested
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Consequences of Addiction for Women

- ▶ There is a strong association between drug use and crime in women than in men
- ▶ The most common crimes
 - ▶ Possession
 - ▶ Sale
 - ▶ Prostitution

Wise Women



Wise Women

- ▶ Mature Adults
- ▶ 50 and Older
- ▶ 58% of all Americans 50 and older are women
- ▶ 4.4 million are addicted to Nicotine
- ▶ 2.8 million are abuse psychoactive drugs
- ▶ They are more likely to be hospitalized for drug abuse related problems than a heart attack!