

# Why People Take Drugs

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## To feel good

To have novel:  
Feelings  
Sensations  
Experiences  
And  
To share them  
(Connection)



## To feel better

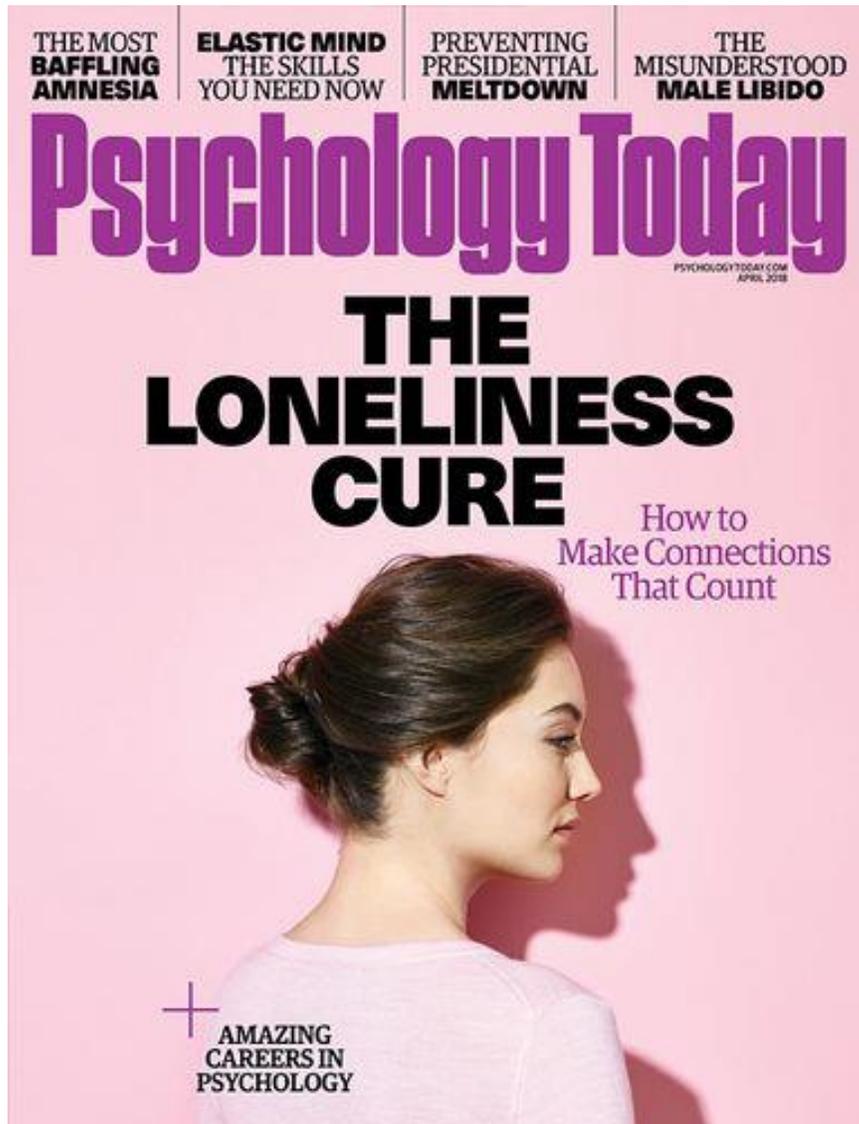
To lessen:  
Anxiety  
Worries  
Fears  
Depression  
Hopelessness  
Withdrawal  
(Disconnection)

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“The opposite of  
addiction is not sobriety.  
The opposite of addiction  
is connection.”

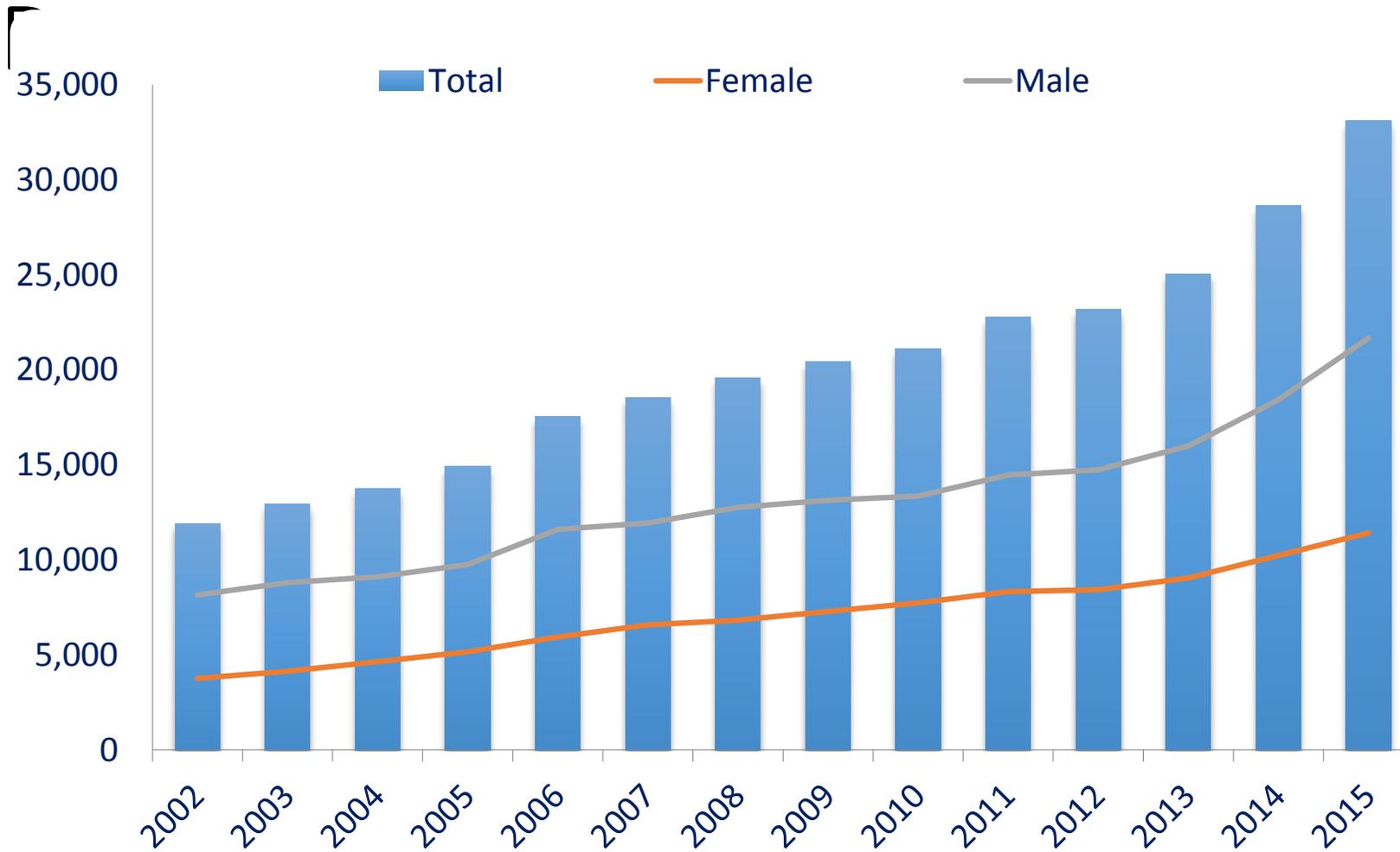
-Johann Hari

# We need to address problems “upstream”



- Acts on same parts of brain as physical pain
- Social support is protective
- Loneliness is not being alone- subjective experience independent of the size of network.
- Emptiness
- Worthlessness
- Lack of control
- Personal Threat
- 16-24 y/o most likely of all age groups to report feeling lonely

# National Overdose Deaths Involving Opioid



Source: National Center for Health Statistics, CDC Wonder

# Lethal Doses

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Heroin: 30 milligrams

Fentanyl: 3 milligrams

Carfentanil: 2 micrograms  
(estimated)

**“Just about the size of  
Lincoln’s beard on a penny —  
of Carfentanil can be lethal  
to most people.” —DEA**



New Hampshire State Forensic Lab (Schultze, 2017)

# Heroin Use Is Part of a Larger Substance Abuse Problem

Nearly all people who used heroin also used at least 1 other drug.

Most used at least **3** other drugs.

**Heroin** is a highly addictive opioid drug with a high risk of overdose and **death** for users.

People who are addicted to...



ALCOHOL

are

**2x**



MARIJUANA

are

**3x**



COCAINE

are

**15x**



Rx OPIOID PAINKILLERS

are

**40x**

...more likely to be addicted to heroin.

SOURCE: National Survey on Drug Use and Health (NSDUH), 2011-2013.

# Addiction Potential of Various Substances

1.	Tobacco	32%
2.	Heroin	23%
3.	Cocaine	17%
4.	Alcohol	15%
5.	Sedatives	9%
6.	Cannabis	9%

If age of start is:

= or < 18 years old                    +17%

= or < 15 years old                    +25-50%

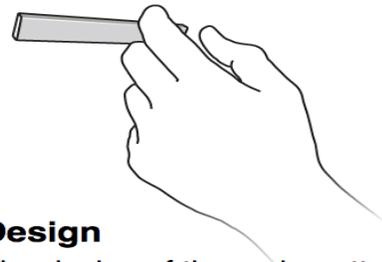


# JUUL e-cigarettes

Some e-cigarette critics are calling the JUUL e-cigarette the “Apple of vaping” or the “iPhone of vaping.” With its relatively low entry price, sleek portable design, ease of use, and nicotine head rush it generates for users, JUULS are catching on with younger people.

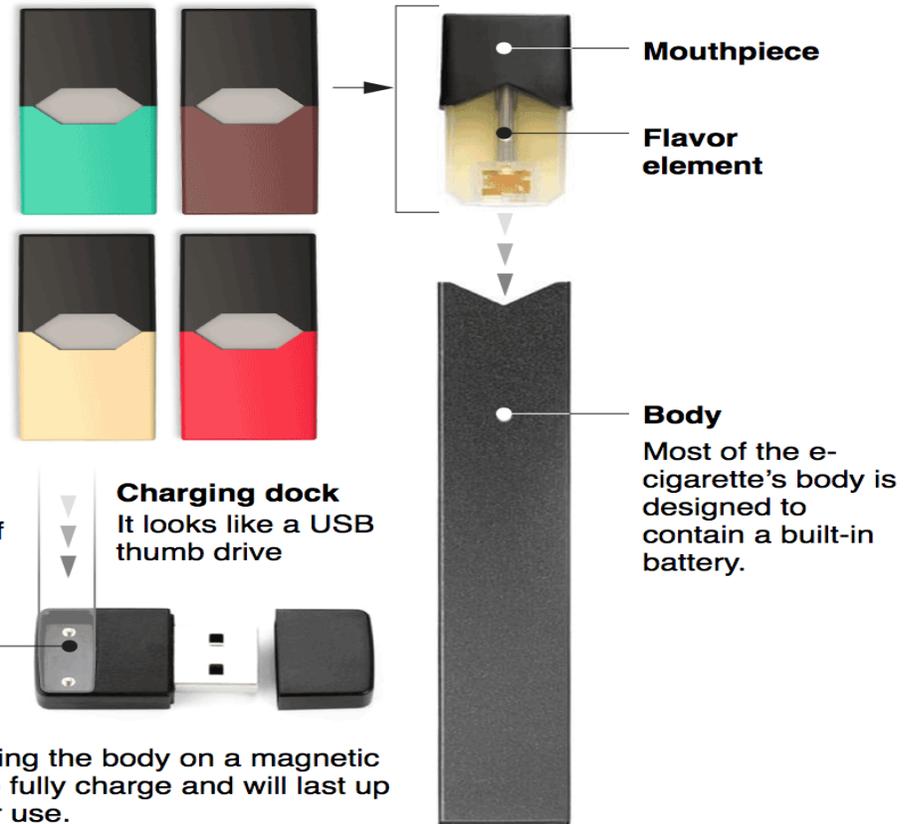
## JUUL flavor pods

The juice-flavored pods contain 50 milligrams of nicotine, roughly equivalent to a pack of cigarettes.



## Design

The design of the e-cigarette is about the same size as a cigarette and weighs a couple of grams.



**Mouthpiece**

**Flavor element**

**Body**

Most of the e-cigarette's body is designed to contain a built-in battery.

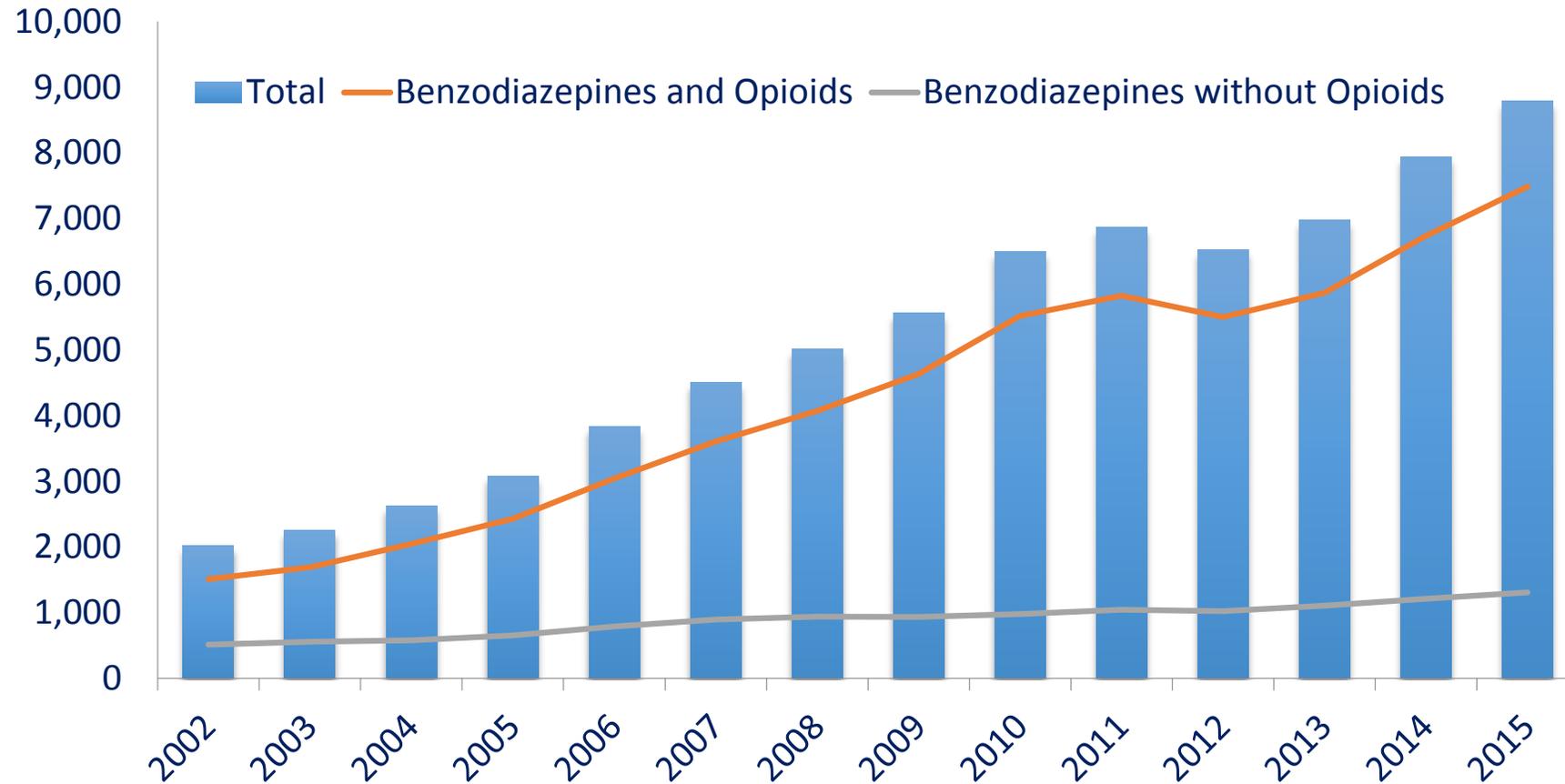
**Charging dock**  
It looks like a USB thumb drive

**Body**

## USB charging dock

The battery is charged by dropping the body on a magnetic USB adapter. It takes an hour to fully charge and will last up to 200 puffs, a full day of regular use.

# Opioid Involvement in Benzodiazepine Overdoses



Source: National Center for Health Statistics, CDC Wonder

## Connecticut Accidental Drug Intoxication Deaths Office of the Chief Medical Examiner

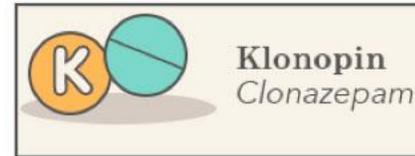
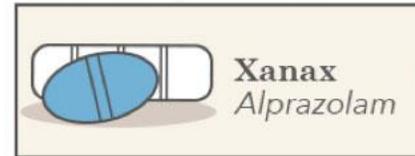
	2012	2013	2014	2015	2016 Jan-March	2016 Apr-June	2016 Jan-June	2016 (projected)
Accidental Intoxication Deaths*	357	495	568	729	208	236	444	888
-Heroin, Morphine, and/or Codeine detected	195	286	349	445	118	146	264	528
-Heroin in any death	174	258	327	416	109	135	244	488
-Heroin alone	86	109	115	110	26	14	40	80
-Heroin + Fentanyl	1	9	37	108	39	80	119	238
-Heroin + Cocaine	50	69	73	106	26	39	65	130
-Morphine/Opioid/Codeine NOS	21	28	22	29	9	11	20	40
-Cocaine in any death	105	147	126	177	53	65	118	236
-Cocaine alone	46	53	22	30	7	6	13	26
-Oxycodone in any death	71	75	107	95	22	30	52	104
-Methadone in any death	33	48	51	71	20	19	39	78
-Hydrocodone in any death	15	19	15	20	5	5	10	20
-Fentanyl in any death	14	37	75	188	84	139	223	446
-Fentanyl alone	8	6	12	31	15	15	30	60
-Fentanyl + Cocaine	2	16	14	43	18	36	54	108
-Fentanyl + Prescription Opioid	4	7	14	23	14	25	39	78
-Fentanyl + Heroin	1	9	37	108	39	80	119	238
<b>Any Opioid + Benzodiazepine</b>	<b>41</b>	<b>60</b>	<b>140</b>	<b>221</b>	<b>58</b>	<b>54</b>	<b>112</b>	<b>224</b>
-Hydromorphone	1	0	12	17	5	4	9	18
-Amphetamine/Methamphetamine	7	5	11	20	5	1	6	12
-MDMA	0	0	2	1	1	0	1	2

\*Some deaths had combinations of drugs; pure ethanol intoxications are not included. NOS, not otherwise specified  
Updated 9/2/16

# What Are Benzodiazepines?

- Sometimes called “benzos”
- Sedatives often used to treat anxiety, insomnia, and other conditions
- Combining benzodiazepines with opioids increases a person’s risk of overdose and death

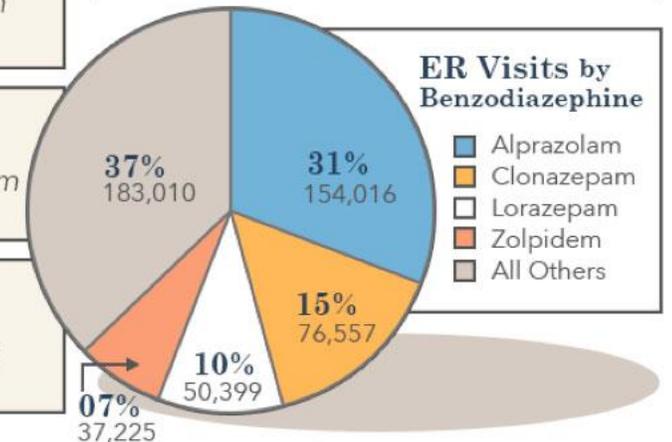
## Commonly Abused



## Emergency Room Visits Most Commonly Involved Drugs



ER visits that involved benzodiazepine were nearly 20% greater than those for painkillers





ZP9A pill press, small rotary tablet press, pill press, tablet press

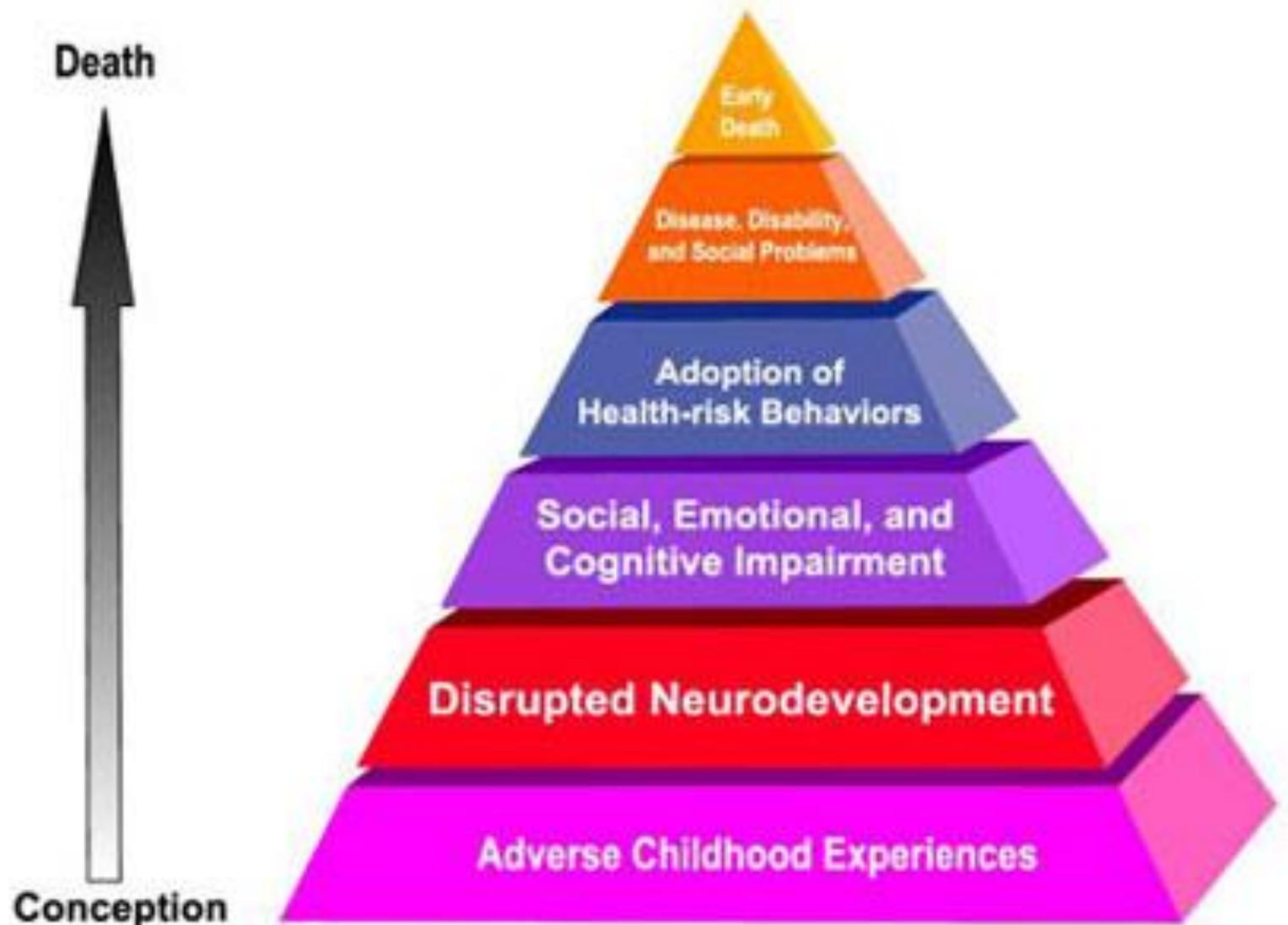
**\$5,350.00** + \$500.00 Shipping

Qty : 1 ▼

Buy It Now

Add to cart

- INCREASED EXPOSURE  
TO DRUGS, ALCOHOL  
AND TOXIC STRESS  
INCREASES RISK



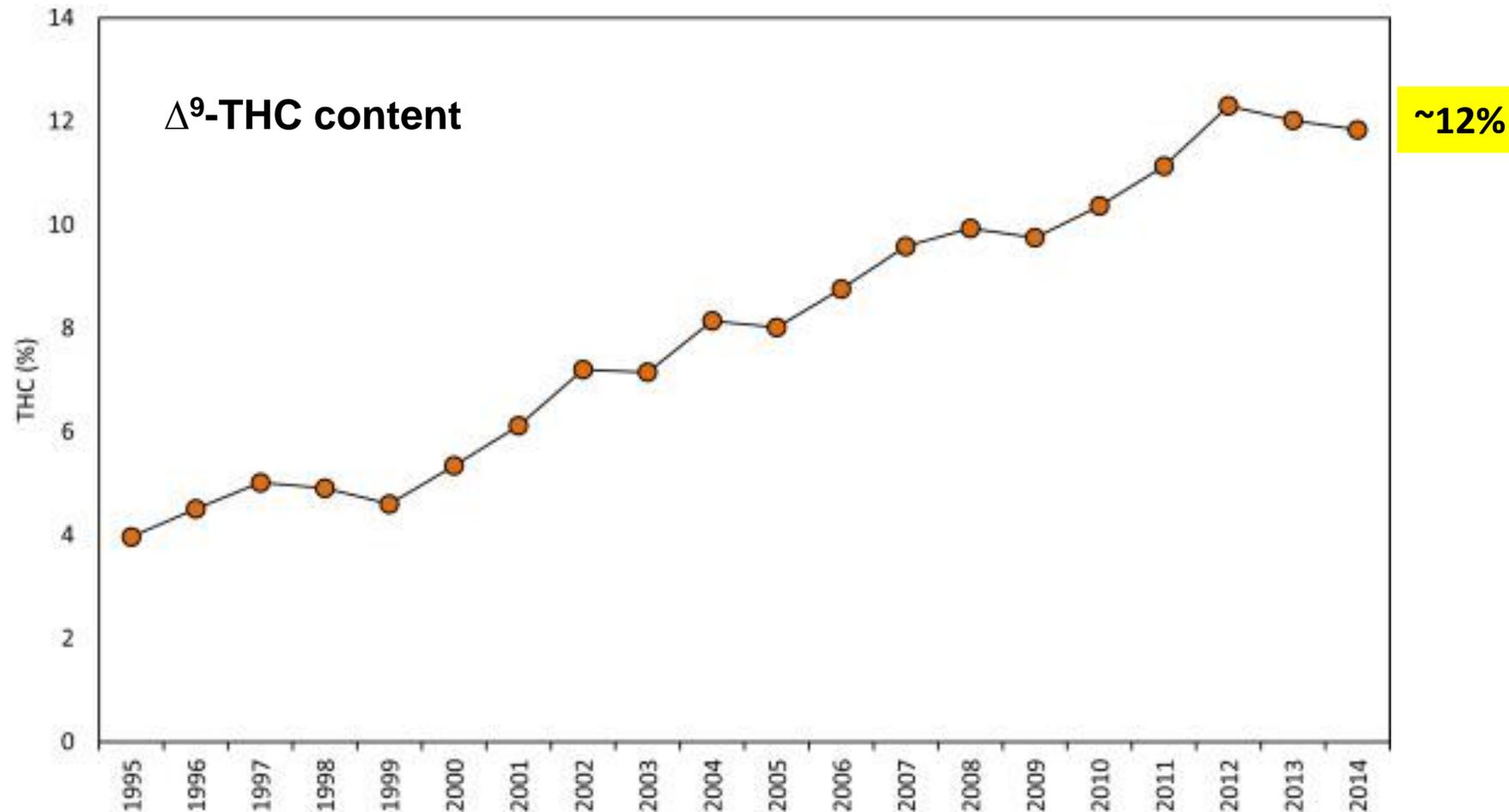
**Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan**

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Anxiety of parents will  
influence the anxiety  
of your teens.

—*John Gottman*

# Cannabis Potency Has Increased Over the Last 2 Decades (1995–2014) in the U.S



Average  $\Delta^9$ -tetrahydrocannabinol (THC) concentration of Drug Enforcement Administration specimens by year, 1995–2014.

# “But it’s just a plant...”

(80-90% THC) Concentrates



*“Green Crack” wax*



*“Ear Wax”*



Butane Hash Oil (BHO)



Hash Oil Capsules



*“Budder”*

*“Shatter”*



# M-Cigarettes

(marijuana vaporizers) – Brought to you by *Groupon!*

Atmos Dry Herb, Wax, and Oil Vaporizer Kit. Multiple Colors Available.

Online Deal

FROM

**\$39.99**

BUY!

VALUE	DISCOUNT	YOU SAVE
\$117.95	66%	\$77.96

OPTIONS

Select Option

LIMITED TIME ONLY!

🕒 10 days 07:40:35

LIMITED QUANTITY AVAILABLE

👤 Over 1,000 bought



# Is Cannabis Addictive?

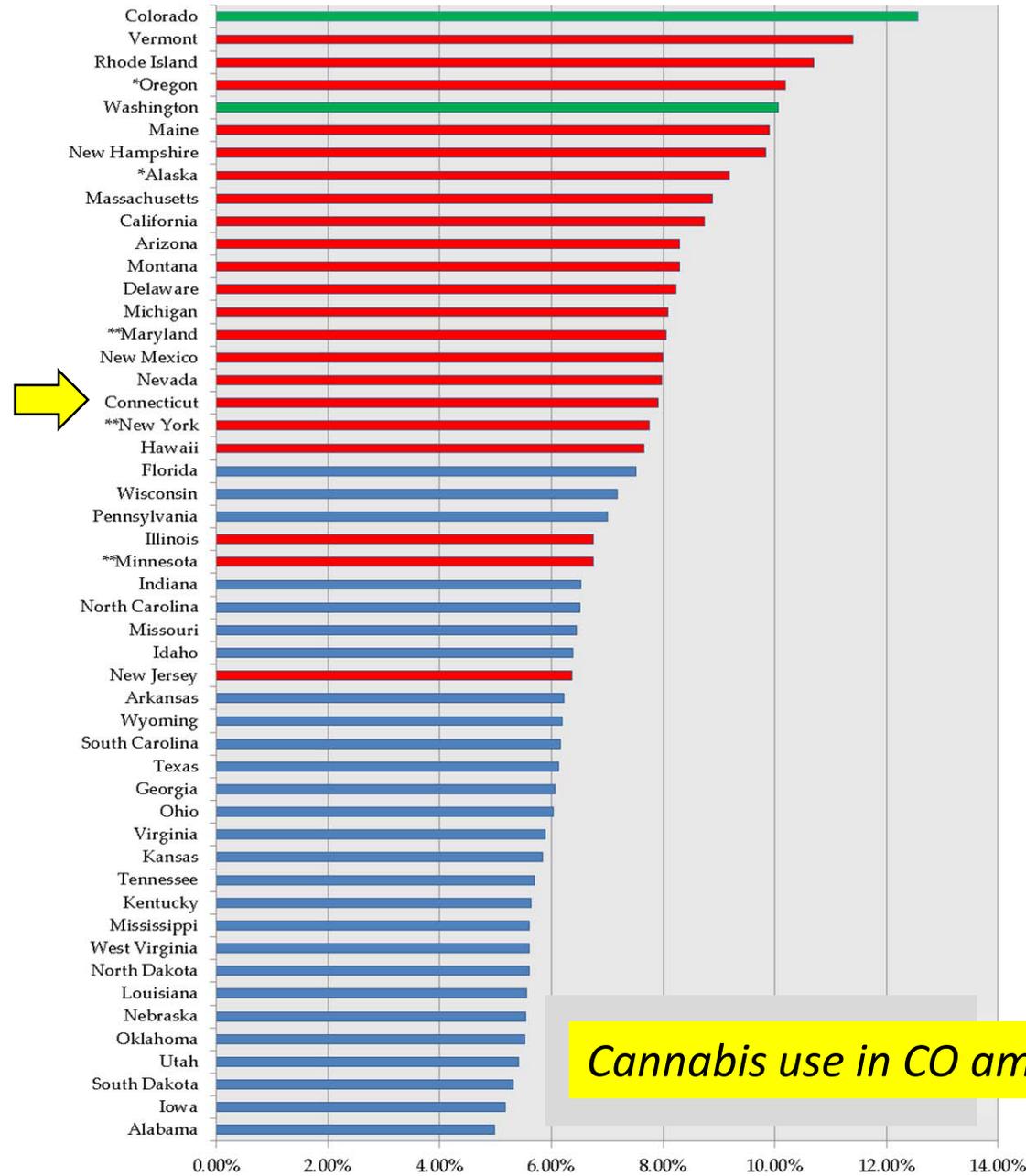
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CUD  $\geq 2$  of the following accompanied by significant impairment of functioning and distress:

- Difficulty containing use.
- people failed attempts to quit or reduce.
- Too much time spent acquiring, using, or recovering from the effects of cannabis.
- Cravings and a desire to use.
- Continued use despite consequences.
- Other important activities in life superseded by the desire to use.
- Use in contexts that are potentially dangerous (e.g., driving).
- Continued use despite awareness of problems attributed to use.
- Tolerance.
- Withdrawal.

***Cannabis is addictive (~10%)***

# Past Month Usage, 12 to 17 Years Old, 2013/2014

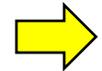


As of 2014:

Legalized Recreational and Medical Marijuana

Legalized Medical Marijuana Only

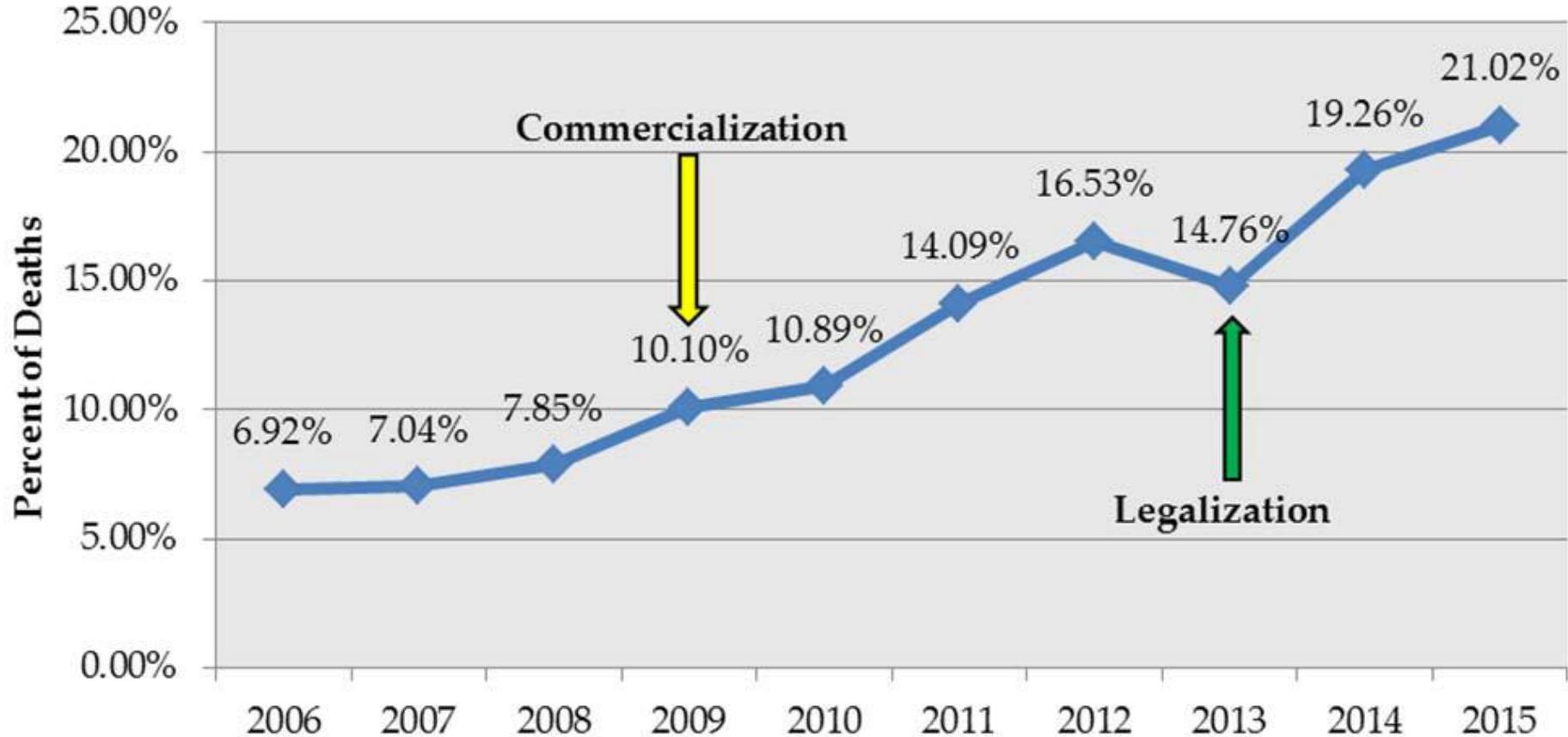
Marijuana Not Yet Legalized



*Cannabis use in CO amongst 12-17yr olds is highest*

SOURCE: SAMHSA.gov, National Survey on Drug Use and Health 2013 and 2014

# Percent of All Traffic Deaths That Were Marijuana-Related\*



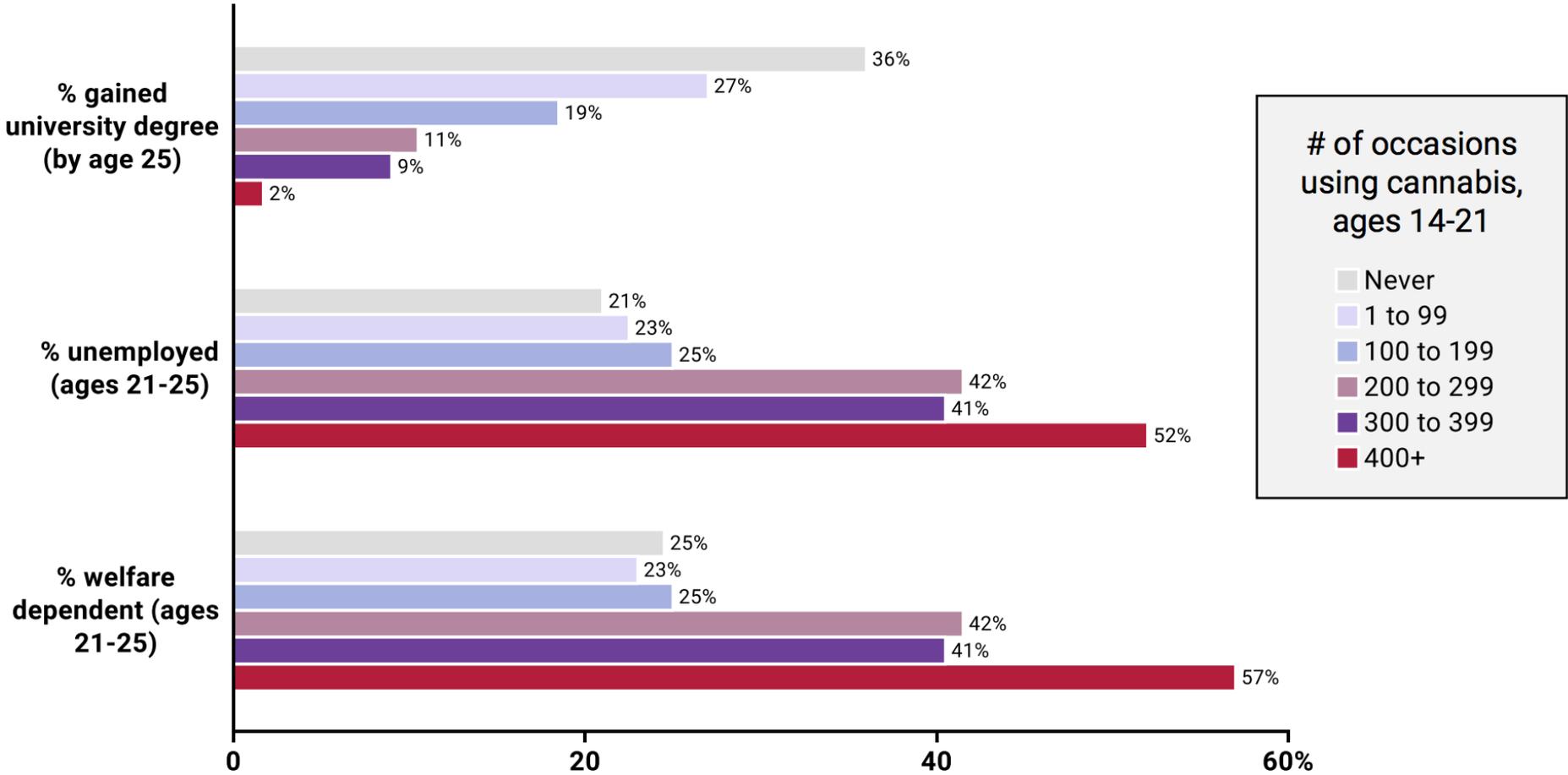
\*Percent of All Fatalities Where the Operators Tested Positive for Marijuana

*Increase in cannabis-related traffic deaths in CO*

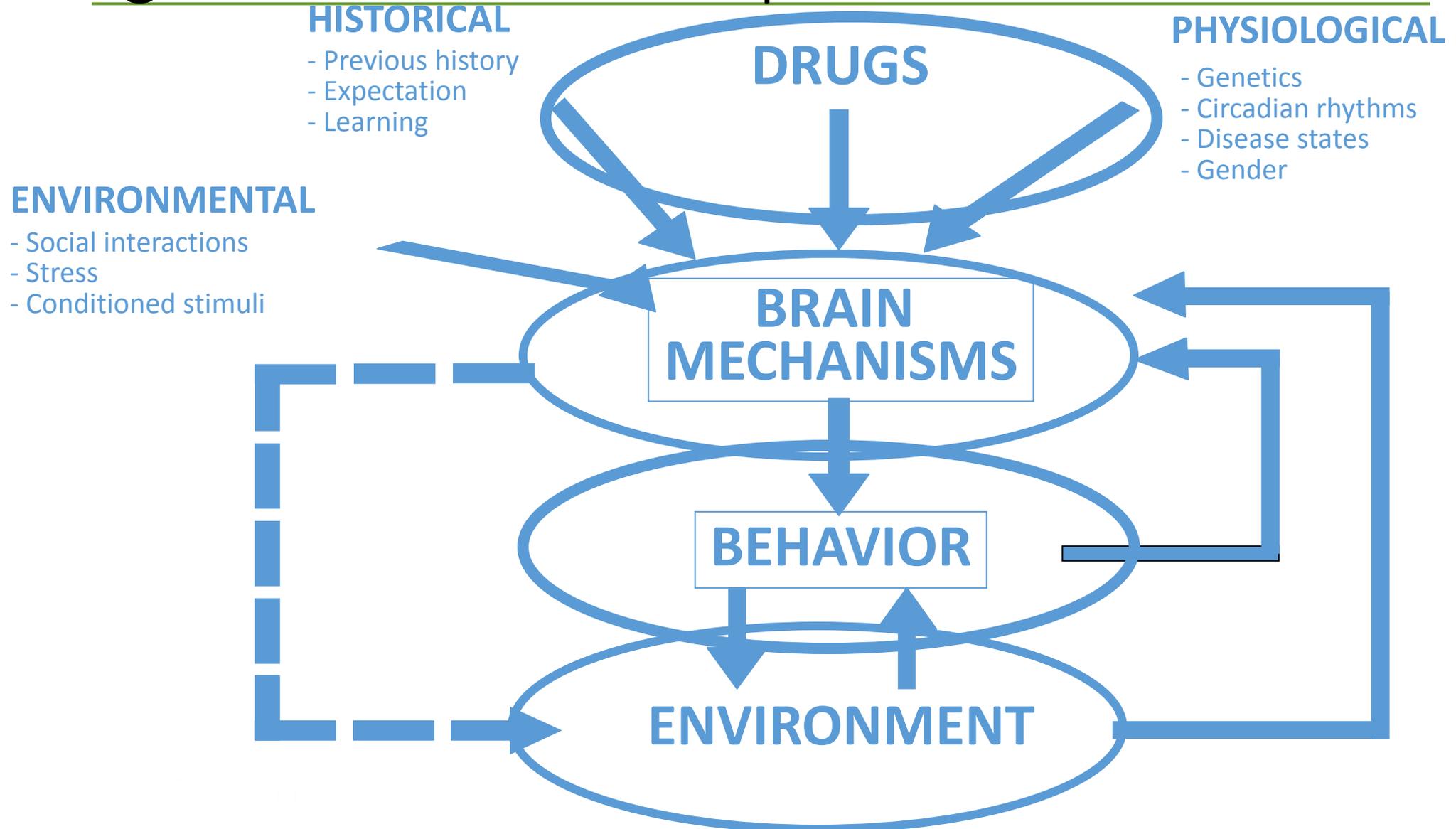
Mohini Ranganathan

SOURCE: NHTSA, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado DOT 2012-2015

# New Zealand study showing relationship between cannabis use and social outcomes

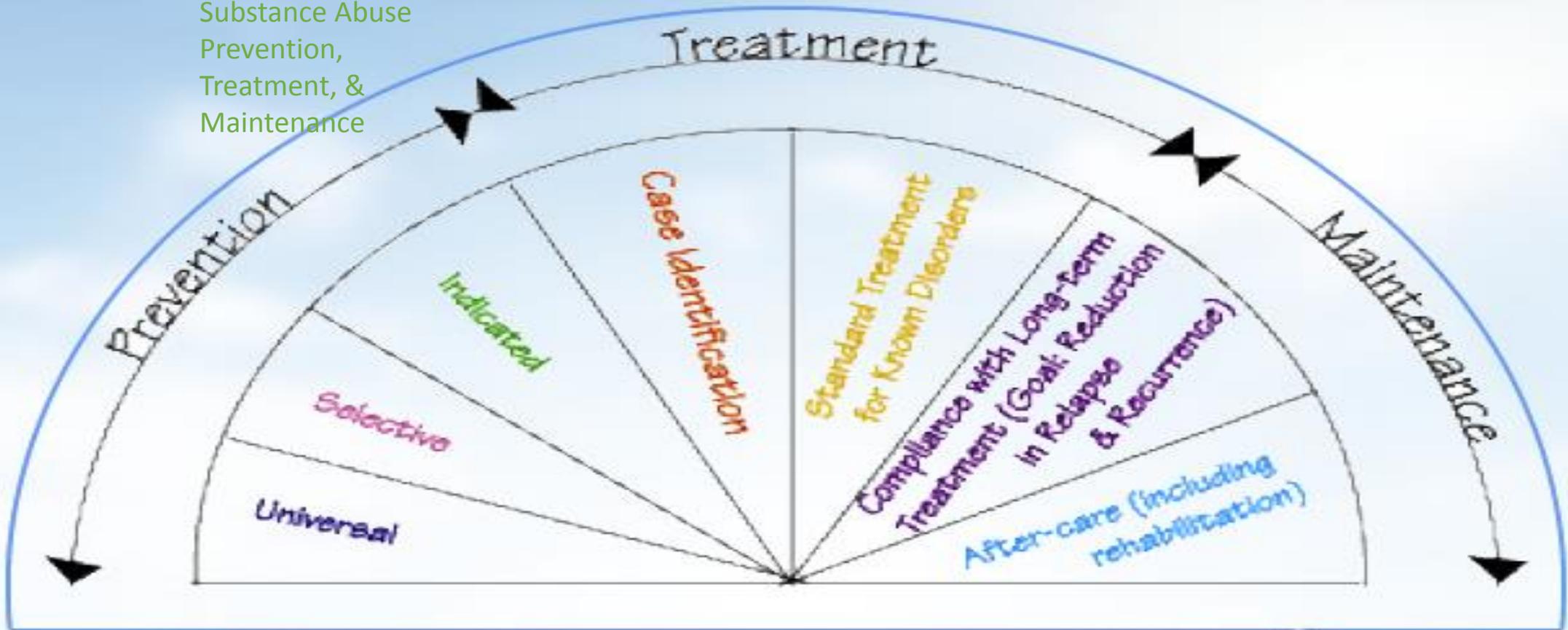


# Drug Addiction: A Complex Disorder



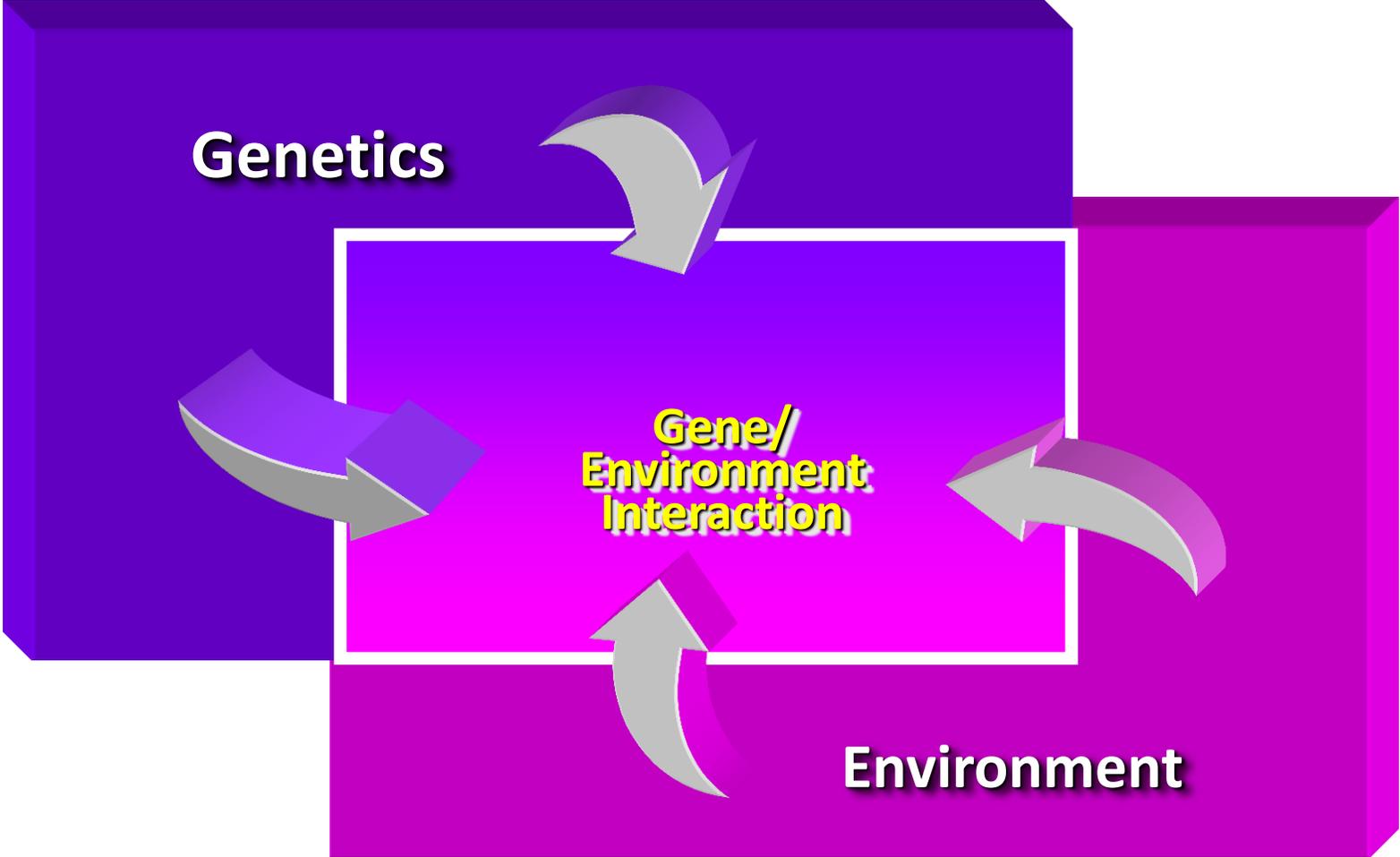
## Institute of Medicine (IOM) Continuum of Care Model:

Substance Abuse  
Prevention,  
Treatment, &  
Maintenance



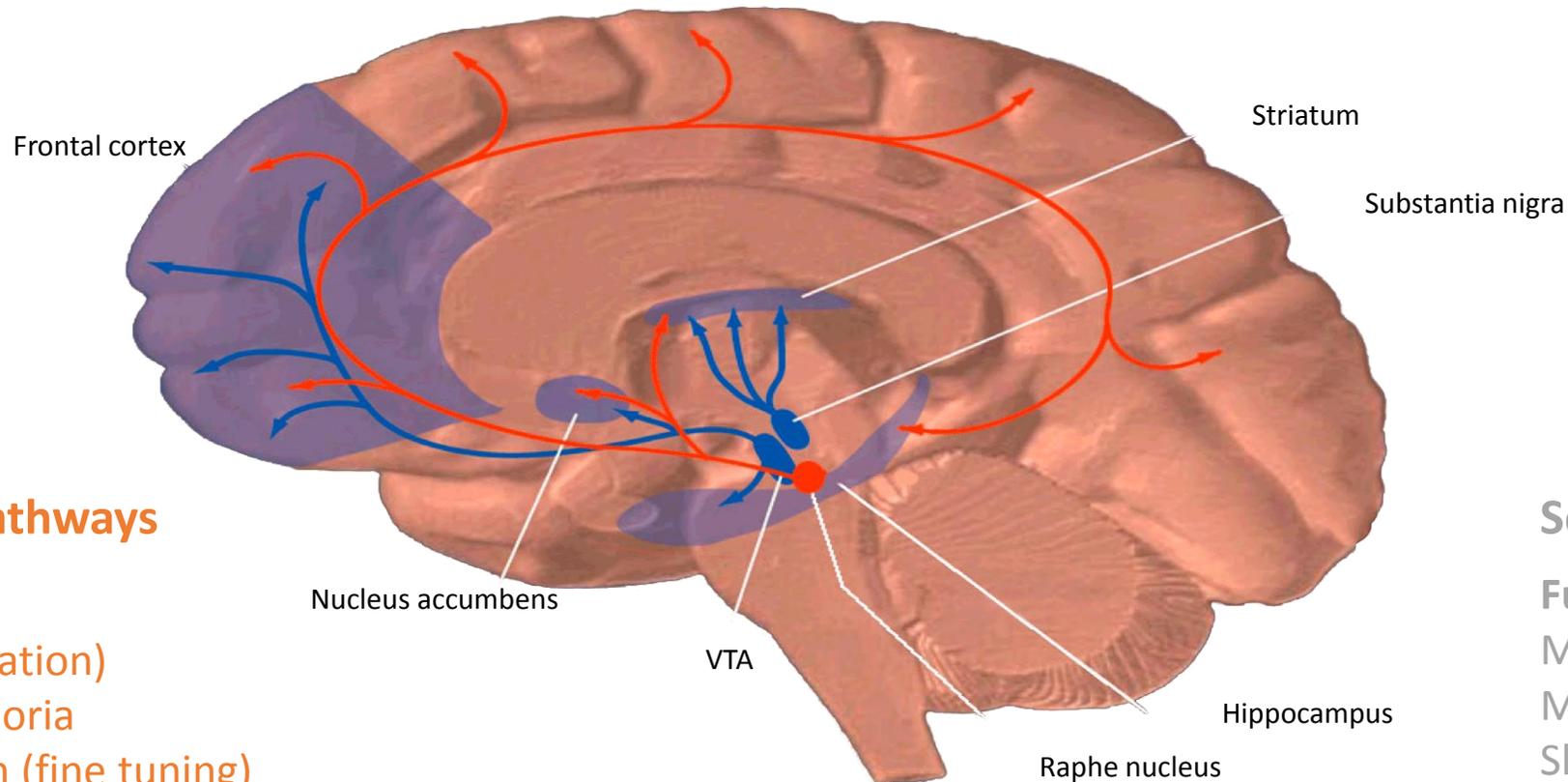
# Genetics vs. Environment

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# How Drugs Affect Brain Function

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## Dopamine Pathways

### Functions

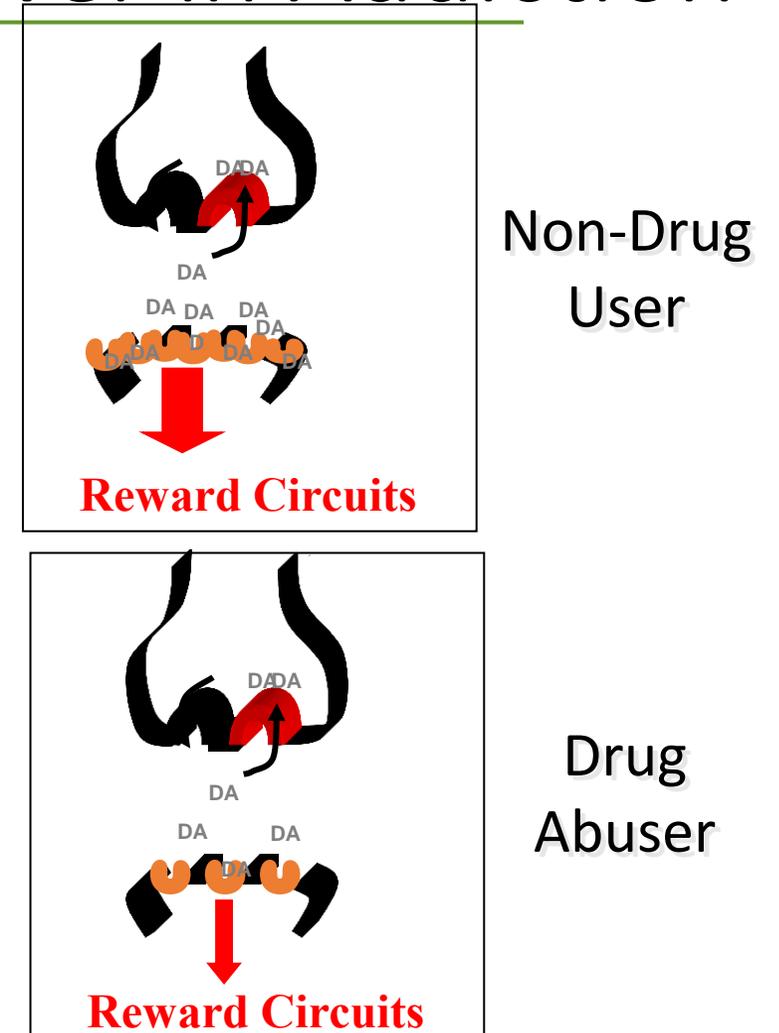
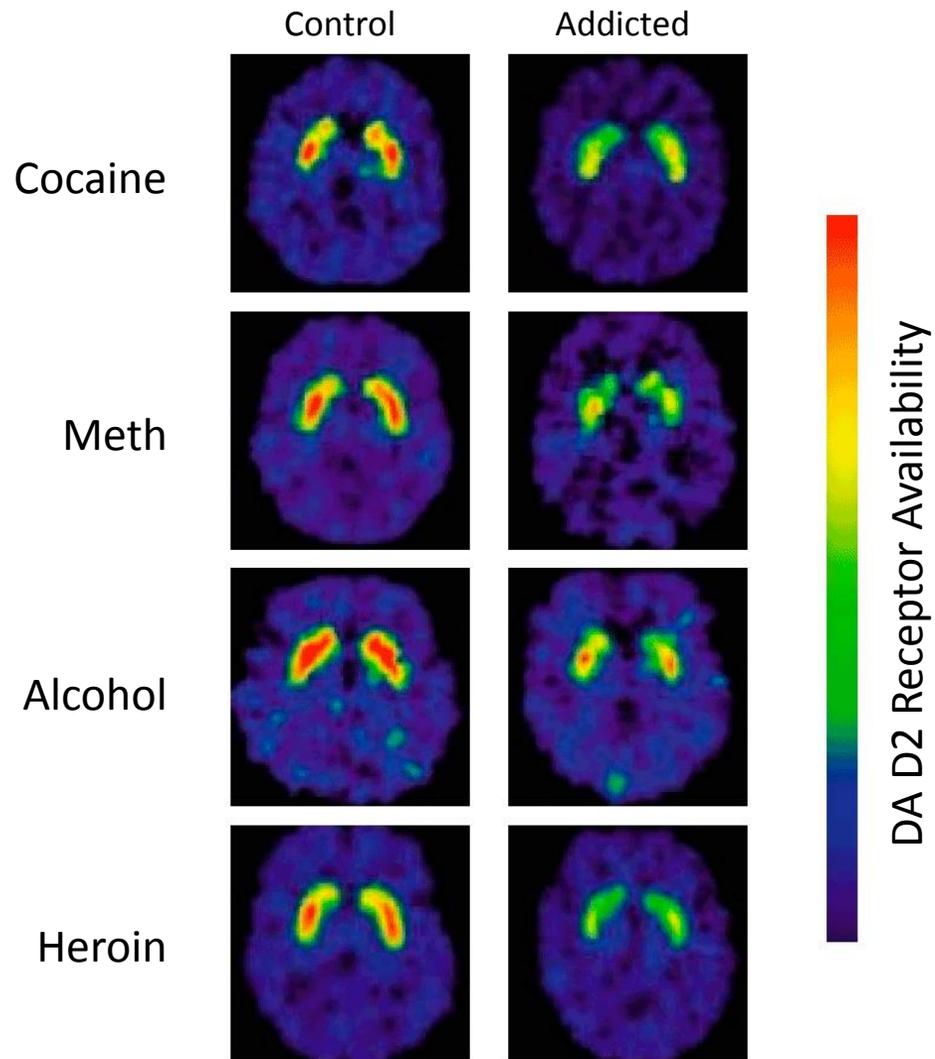
- Reward (motivation)
- Pleasure, euphoria
- Motor function (fine tuning)
- Compulsion

## Serotonin Pathways

### Functions

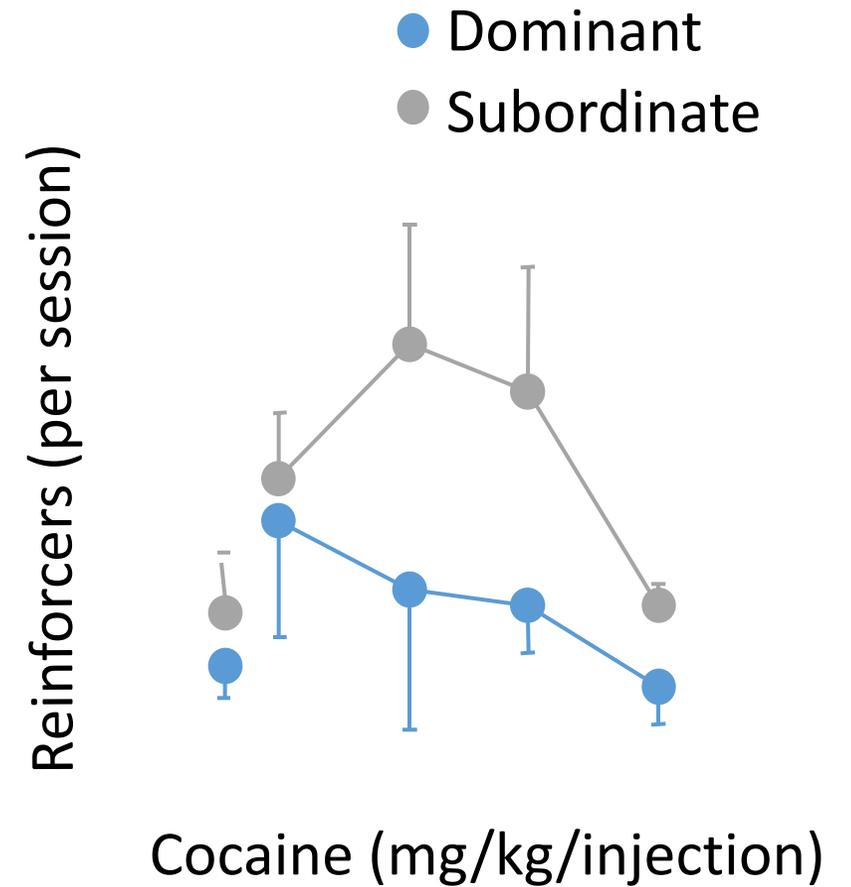
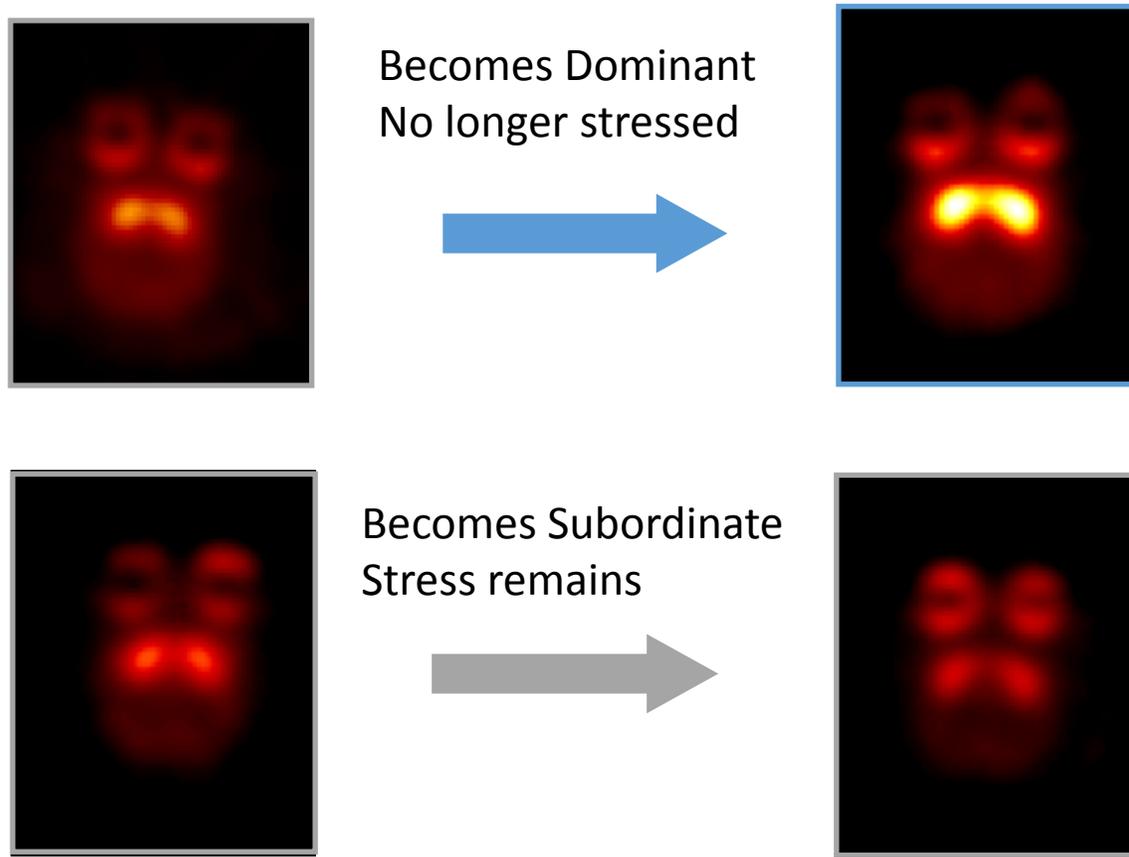
- Mood
- Memory processing
- Sleep
- Cognition

# Dopamine D2 Receptors Are Lower in Addiction



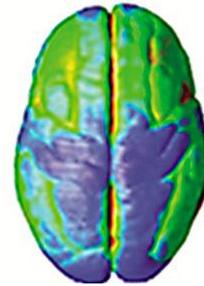
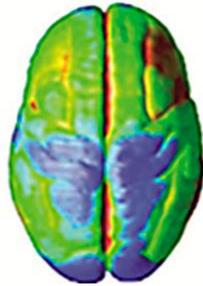
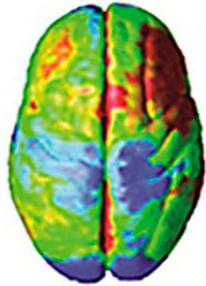
# Effects of a Social Stressor on Brain

## Isolation Can Change Neurobiology



# Impact on Brain Development

Exposure to drugs of abuse during adolescence could have profound effects on brain development & brain plasticity



Adolescence is a period of profound brain maturation

It was believed that brain development was complete during childhood

The maturation process is not complete until about age 24!!!

# INSIDE THE ADOLESCENT BRAIN

The brain undergoes two major developmental spurts, one in the womb and the second from childhood through the teen years, when the organ matures by fits and starts in a sequence that moves from the back of the brain to the front.

## Nerve Proliferation ...



By age 25, the brain has 100 billion neurons. The majority of the brain's neurons have formed by the age of one. Contrary to what you may think, most of them die off in the period.

### Corpus Callosum

Essential to the transfer of information between the two halves of the brain, the corpus callosum connects the left and right hemispheres of the brain. During adolescence, the corpus callosum undergoes a process of myelination, which allows for faster and more efficient communication.

### Prefrontal Cortex

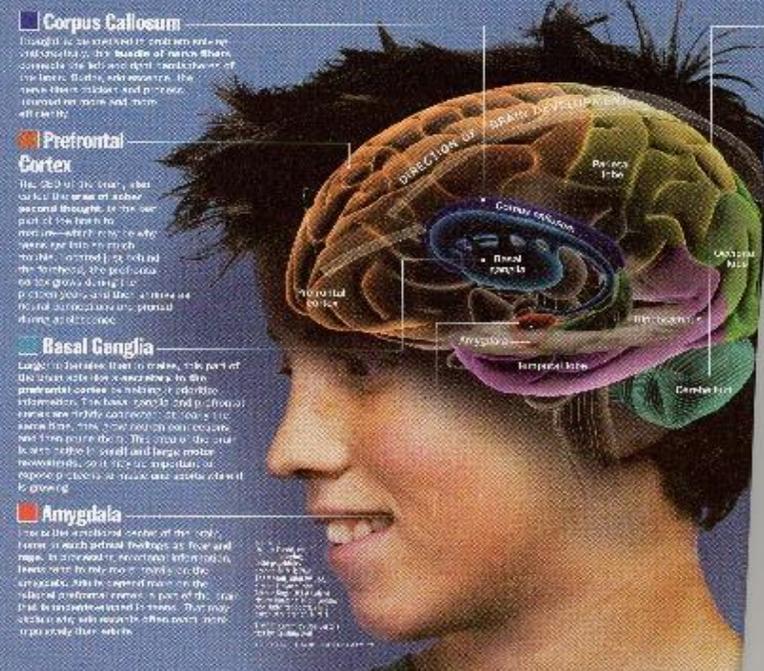
The oldest of the brain's lobes, the prefrontal cortex is the seat of higher-order thought. In the early part of the teen years, the prefrontal cortex undergoes a process of myelination, which allows for faster and more efficient communication. This process is not complete until about age 25.

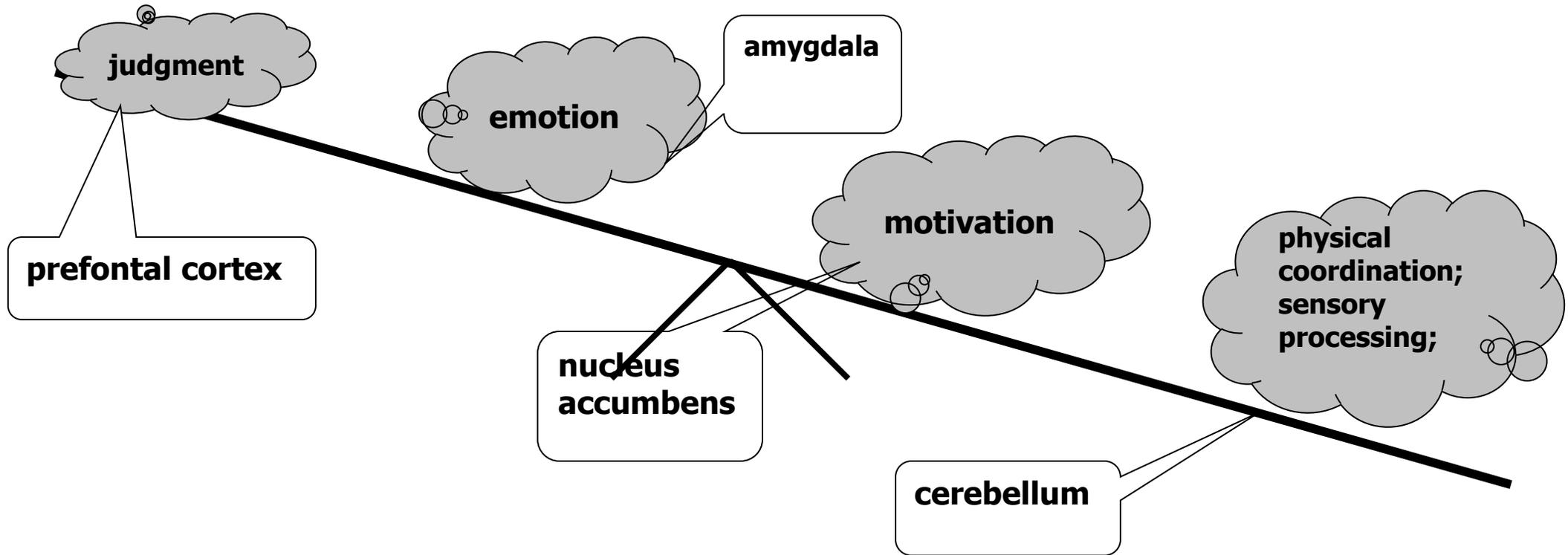
### Basal Ganglia

Large in size, the basal ganglia is a part of the brain that is involved in the control of voluntary movements. The basal ganglia and thalamus are highly interconnected, and together they control the body's movements. This process is not complete until about age 25.

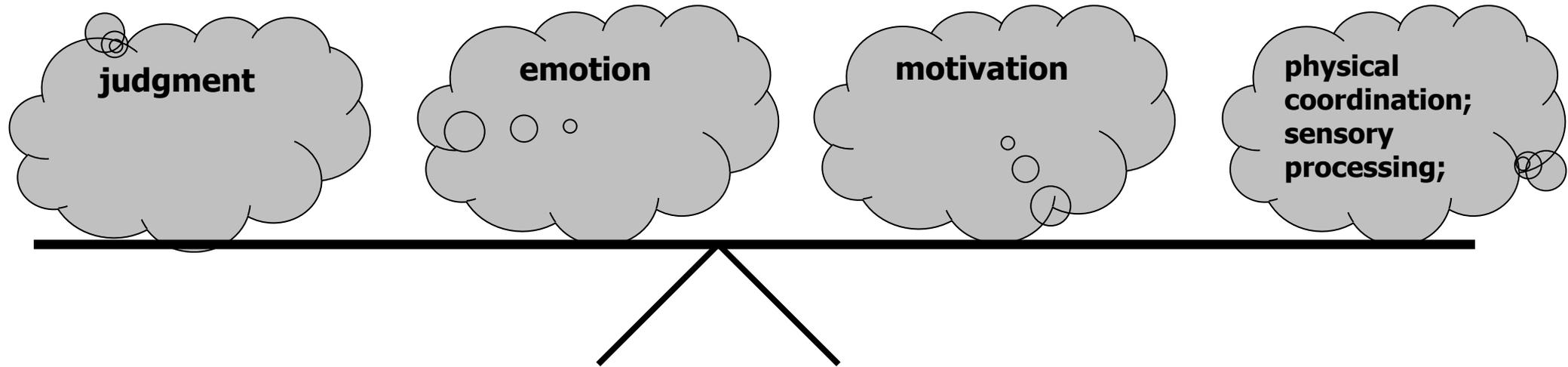
### Amygdala

One of the emotional centers of the brain, the amygdala is involved in the processing of emotions. The amygdala is highly interconnected with the prefrontal cortex, and together they control the body's emotional responses. This process is not complete until about age 25.





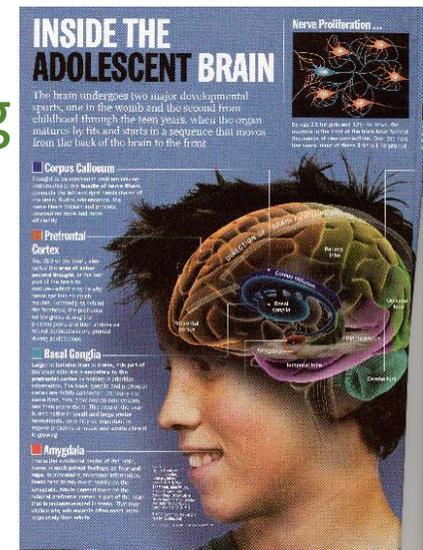
# Age 24



- **Neurodevelopment likely contributes to....**
  - **> risk taking (particularly in groups)**
  - **> propensity toward low effort - high excitement activities**
  - **> interest in novel stimuli**
  - **< capacity for good judgment & weighing consequences**

## Arrested Development

- Back of brain matures before to the front of the brain...
  - sensory and physical activities favored over complex, cognitive-demanding activities
  - propensity toward risky, impulsive behaviors
    - group setting may promote risk taking
  - poor planning and judgment



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## Can Addiction be Prevented by Delaying Drug Use Onset?

- **Every year use of a substance is delayed, the risk of developing a substance use disorder is reduced.**

# CRAFFT

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➤ Car

➤ Relax

➤ Alone

➤ Family or Friends

➤ Forgot

➤ Trouble

# Treatment

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## **Prevalence of Co-Occurring Disorders**

Estimates of psychiatric co-morbidity among clinical populations in substance abuse treatment settings range from 50-70%

Estimates of substance use co-morbidity among clinical populations in mental health treatment settings range from 20-50%

\*Flynn and Brown, Co-Occurring Disorders in Substance Abuse Treatment: Issues and Prospects, *Journal of Substance Abuse Treatment*. January 2008.

## Search Institute's The Origin of "Assets"

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### External Assets

- Support and Caring Relationships
- Empowerment
- Boundaries and Expectations
- Constructive Use of Time

### Internal Assets

- Commitment to Learning
- Positive Values
- Social Competencies
- Positive Identity

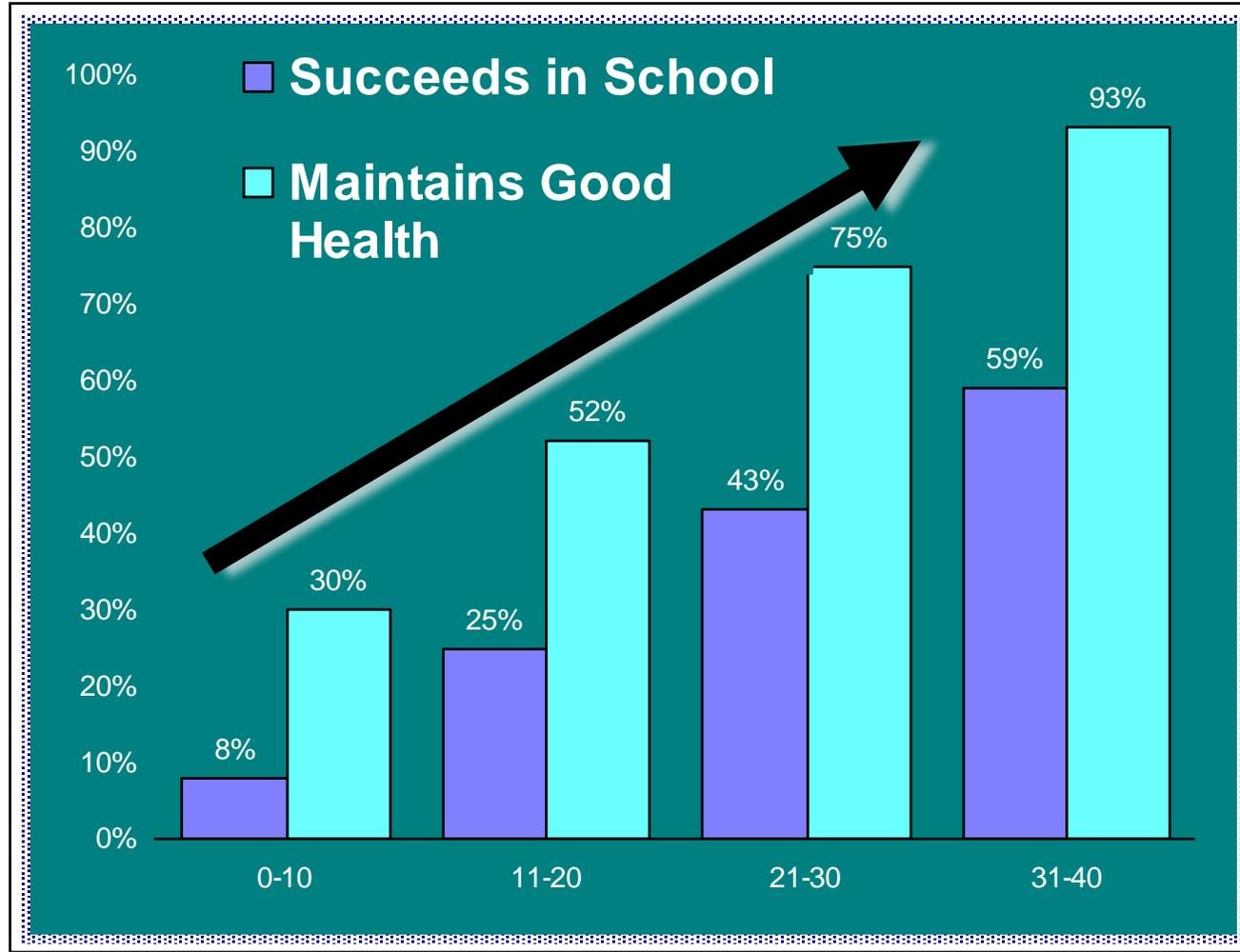
# Search Institute's Asset Framework

The Search Institute has been researching how children and teens grow up healthy for **50 years**.

They have surveyed over **5 million students** around the globe.

The Search Institute has identified 40 positive experiences and qualities that help young people grow up healthy, caring and responsible.

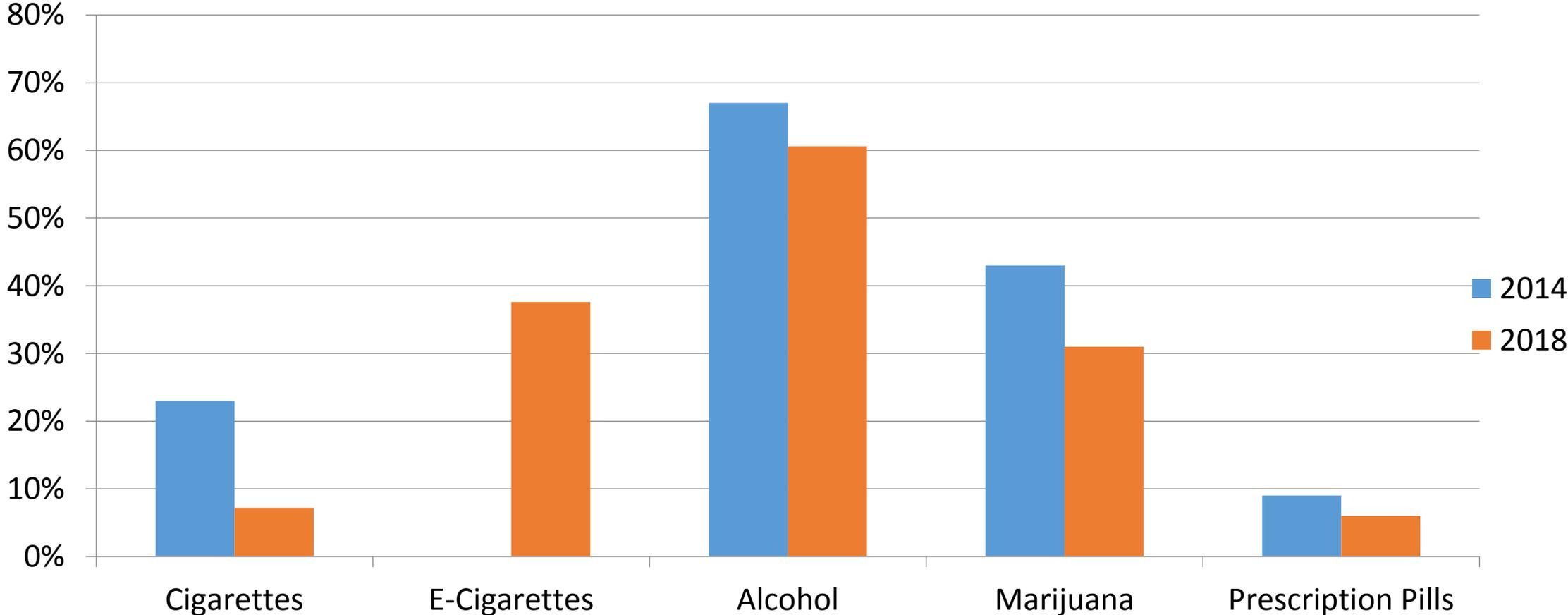
## Thriving Indicators by Asset Level



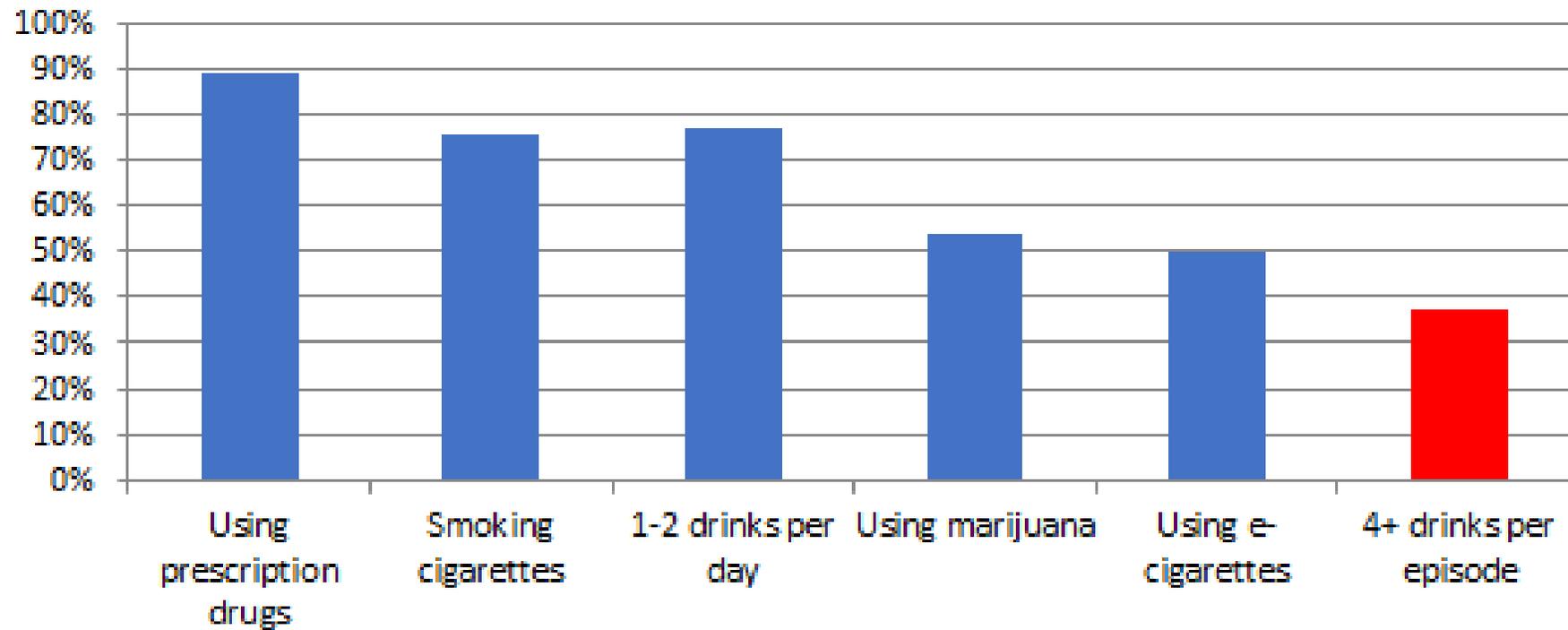
# Darien Students' Asset Results



# 30 Day Prevalence of Substance Use for 12<sup>th</sup> Graders 2014 vs. 2018



# 12<sup>th</sup> Graders Perception of Parental Disapproval of Substance Use 2018



# Why do students drink?



Friends; Peer Pressure; To Have Fun



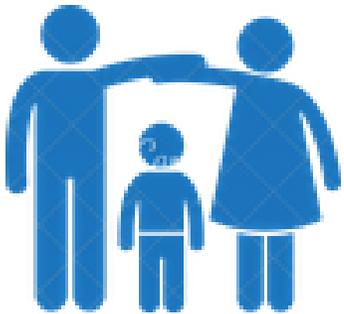
Stress; To Feel Better



Ready Availability of Alcohol; Curiosity

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# Students report deterrents to drinking



Parent  
Rules



License  
Suspension



Breathalyzer

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# WHERE ARE WE STRONG?

- SUPPORT
- EMPOWERMENT
- COMMITMENT TO LEARNING
- CONSTRUCTIVE USE OF TIME

# WHERE ARE WE ADEQUATE?

- BOUNDARIES & EXPECTATIONS
- POSITIVE VALUES
- SOCIAL COMPETENCIES

# What do youth need from parents?

- Positive Reinforcement
- Ground rules
- Support, Love & Encouragement
- Realistic Expectations
- Don't live through your kids
- Communication
- Ability to Fail
- Openness
- Being a role model for kids
- Judgement free outlet

## RISK AND PROTECTIVE FACTORS

<i>Risk Factors</i>	<i>Domain</i>	<i>Protective Factors</i>
Sensation-seeker	Individual	Successful student
Child of drug user		Bonds with family
No supervision	Family	Consistent discipline
Parent/sibling drug use		Anti-drug family rules
Pro-drug use norm	School	Anti-drug use norm
Availability of drugs		High academics
Crime/poverty	Community	Consistent anti-drug message
No afterschool programs		Strong law enforcement

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## NIAAA Guidelines

- Men-less than 4 drinks daily/14 per week total
- Women-less than 3 drinks daily/ 7 per week

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## DRINKING PATTERNS

- Never exceed the daily or weekly limits-1 in 100
- Exceed only the daily limit-1 in 5
- Exceed both daily and weekly limits -1 in 2

IF YOU MEET YOUR KIDS  
WHERE THEY ARE YOU  
WILL ALWAYS WALK AWAY  
WITH EMPATHY AND NEW  
UNDERSTANDING

# ALWAYS ASSESS

---

- ABILITY
- WILLINGNESS

---

## Trust vs Faith

Everyone makes the best decisions available to them at the time with the choices available to them

Do what the relationship allows for the moment

- 
- Listen
  - Understand
  - Take serious
  - Affirm

---

## ENJOY YOR MATE MORE THAN YOUR CHILDREN

- The greatest gift a father can give to his children is to love their mother and the greatest gift a mother can give to her children is to love their father
  - This is where kids learn intimacy and dignity and respect

# Intimacy=Sharing

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1. Recreational
2. Aesthetic
3. Social
4. Intellectual
5. Emotional
6. Spiritual
7. Physical

- 
- INDIVIDUATION
  - SEPARATION
  - AUTONOMY
  - COOPERATION

- 
- **DEPERSONALIZE**
  - **BE NICE AND FORGIVE  
(STAY THE ADULT)**

---

Unconditional acceptance is the most difficult to convey exactly when it is needed most: when our friends or family have disappointed us.

Precisely at such times we must indicate in a word or gesture, that the person is more important than what he/she does. We make the relationship safe before we address the behavior.

(Gordon Neufeld)

- 
- Tailor intervention based on your relationship with your friend or family member and their relationship with alcohol and drugs

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## Dysfunctional Family

- There is no such thing as a dysfunctional family. All behavior is adaptive and has a function.

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# Enabling

- Everyone shows love the best they know how.
- **HELP FAMILY MEMBERS REALIGN AND REDEFINE RELATIONSHIPS IN A MANNER WHICH PROMOTES RECOVERY FOR EACH FAMILY MEMBER**

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# Mental Health

- Lovable
- Capable
- Connected

# THE TWO JOBS OF CHILDREN

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- **RECEIVE LOVE**
- **LEARN**

- 
- **WHO BELIEVED IN YOU?**  
( HOW DID YOU KNOW?)

- 
- What messages do you give your kids that you believe in them, have faith in them?

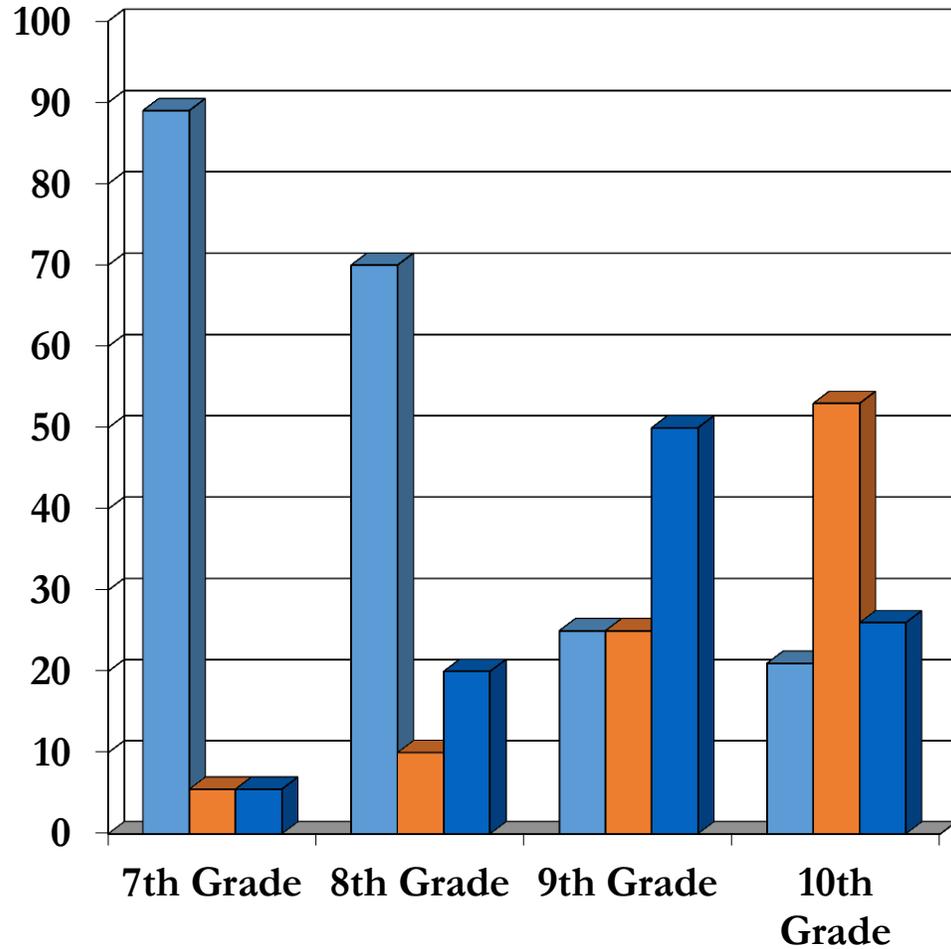
- 
- THE MORE YOU SHOW YOUR HUMANESS, THE MORE YOU ARE LOVABLE  
(FAMILY MEALS)

If you could, what would you change about your relationship with your dad?

The top 5 answers:

5. Trust me more
4. Be home more
3. Be more understanding
2. Spend more time together
1. Communicate more.

# How do your kids view your relationship?



---

What was the last  
good conversation you  
had with your child?

What were you doing?

- 
- What we say to our kids is related to our relationship with ourselves.
  - Prevention of addiction begins in the first prenatal visit

- 
- Schools primary role should be to promote healthy brain development.
  - When parents are stressed, kids often absorb the stress and tune out.
  - What is needed are nurturing available parents who are responsive and in tune with their children.

## ASK YOUR KIDS

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- How am I doing as your parent?
- What am I doing well?
- What could I do better?
- What are the messages I give you that tell you I believe in you?

## More Questions

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- Do you feel you can tell me anything?  
(and if not what am I doing that is getting in the way)
- Do you feel I am honest with you?
- Do you feel you know me?

- Reasonable parenting –

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- based on who your child is not who you think they should be
- show your kids how much you care before you show them how much you know