


# ADDICTION SCIENCE


## WHAT HAPPENS TO ADULT FUNCTIONING AND PROTECTIVE CAPACITIES WHEN DRUGS HIJACK THE BRAIN?



# WORKSHOP OBJECTIVES

- ▶ Define five substance use benchmarks that qualify the danger threshold when substance abuse has been identified
  - ▶ Identify adult functioning most severely impacted by Substance Use Disorders (SUD)
  - ▶ Explore how caregiver protective capacities are compromised by Substance Use Disorders
- 
- Three parallel white lines of varying lengths are positioned diagonally in the bottom right corner of the slide, extending from the right edge towards the center.

# QUALIFYING THE DANGER THRESHOLD

1. *HOW LONG HAVE SUBSTANCES BEEN ABUSED?*
  2. *HOW SEVERE IS THE CONDITION?*
  3. *HOW LIKELY IS USE TO CONTINUE WITHOUT INTERVENTION?*
  4. *HOW PERVASIVE IS THE CONDITION?*
  5. *WHAT IS THE IMPACT ON THE FAMILY?*
- 
- A series of three parallel white diagonal lines in the bottom right corner of the slide, extending from the middle of the right edge towards the bottom left.

# WHERE DO THE “QUALIFIERS” EVENTUALLY LEAD US?

HOW LONG HAVE SUBSTANCES BEEN ABUSED?

HOW SEVERE IS THE CONDITION?

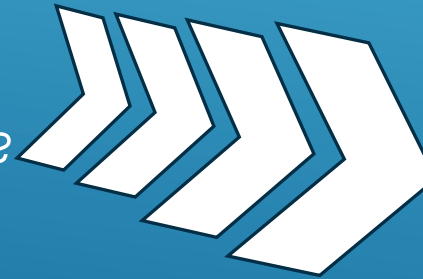
HOW LIKELY IS USE TO CONTINUE WITHOUT INTERVENTION?

HOW PERVASIVE IS THE CONDITION?

WHAT IS THE IMPACT ON THE FAMILY?



**COMPROMISED  
ADULT  
FUNCTIONING**



**DIMINISHED  
PROTECTIVE  
CAPACITIES**

# IDENTIFICATION OF DANGER THREAT

HOW LONG HAVE SUBSTANCES BEEN ABUSED?

HOW SEVERE IS THE CONDITION?

HOW LIKELY IS USE TO CONTINUE WITHOUT INTERVENTION?

HOW PERVASIVE IS THE CONDITION?

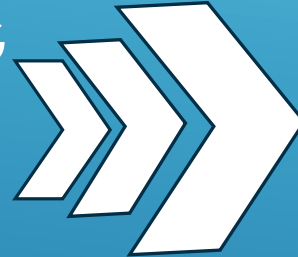
WHAT IS THE IMPACT ON THE FAMILY?



COMPROMISED  
ADULT  
FUNCTIONING



DIMINISHED  
PROTECTIVE  
CAPACITIES



**ONE OR BOTH PARENTS'/  
CAREGIVERS' BEHAVIOR IS  
DANGEROUSLY IMPULSIVE  
OR THEY WILL NOT/  
CANNOT CONTROL THEIR  
BEHAVIOR**

**NO ADULT IN THE HOME  
WILL PERFORM PARENTAL  
DUTIES AND  
RESPNSIBILIITES**

# ***HOW DOES DANGER MANIFEST DURING . . . ?***

ACTIVE  
USE



ACUTE  
WITHDRAWAL



POST ACUTE  
WITHDRAWAL





# HIJACKING: 'CATCH & RELEASE'

ACTIVE  
USE

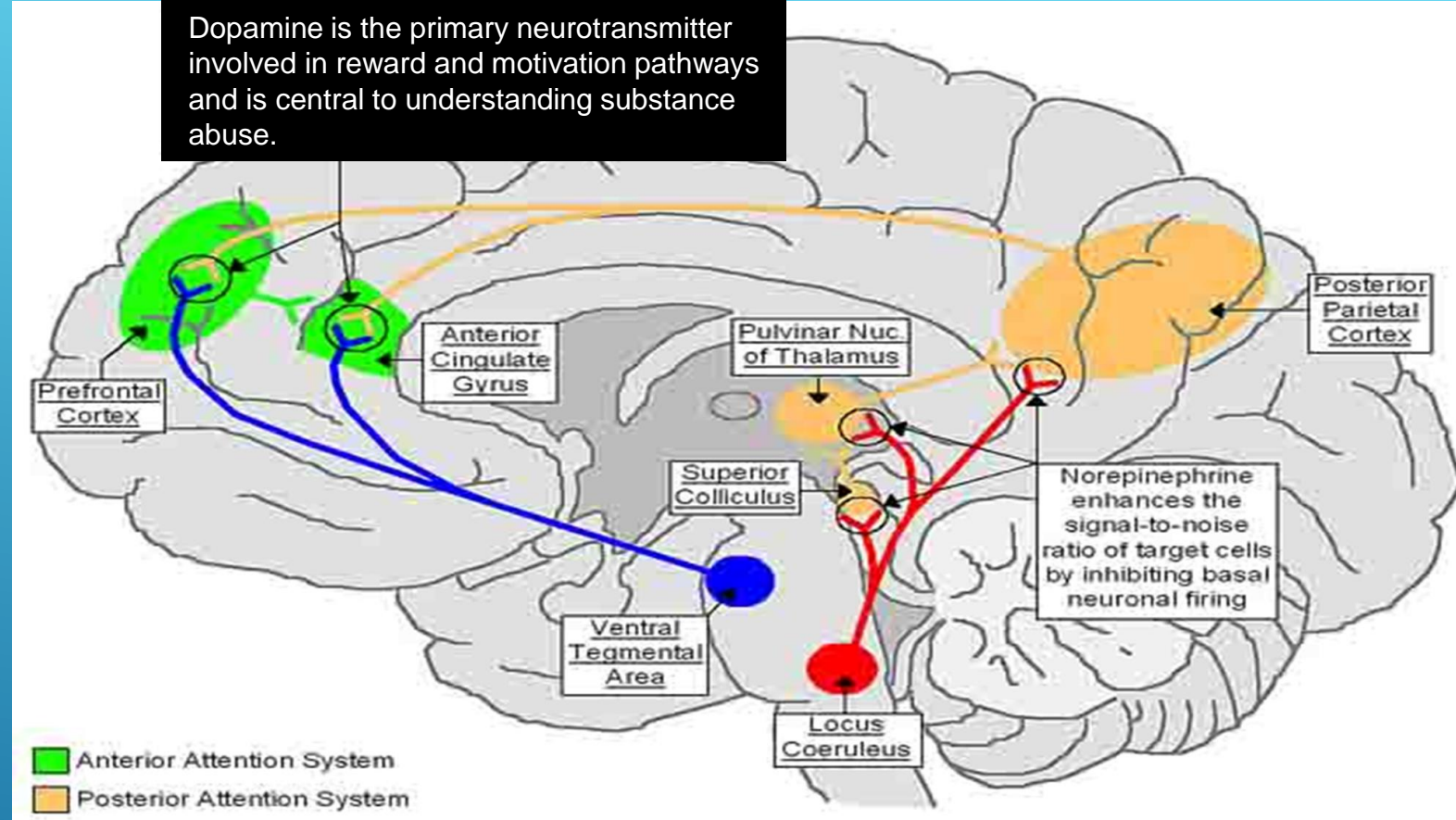


LEARNING  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTION  
SHORT TERM MEMORY



# HIJACKING: LONG-TERM CONSEQUENCES

ACTIVE  
USE





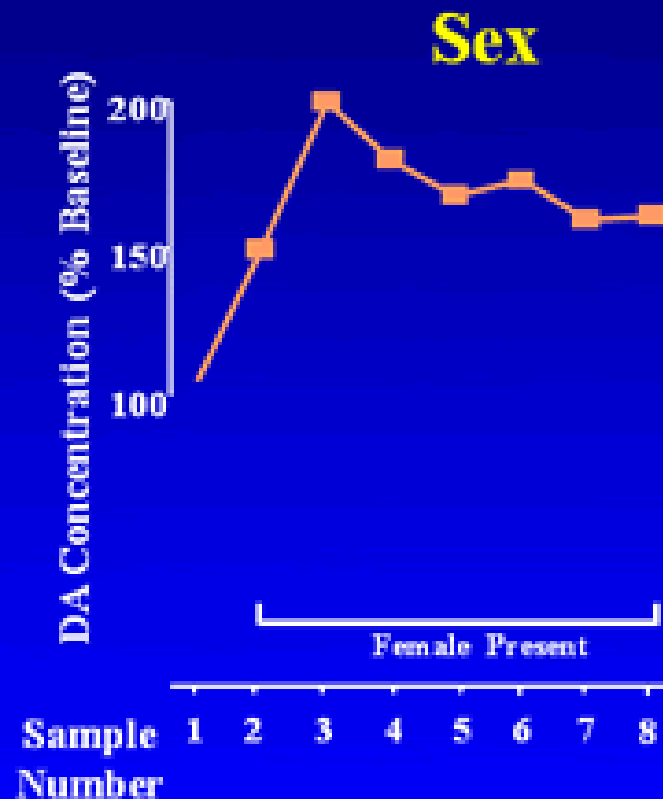
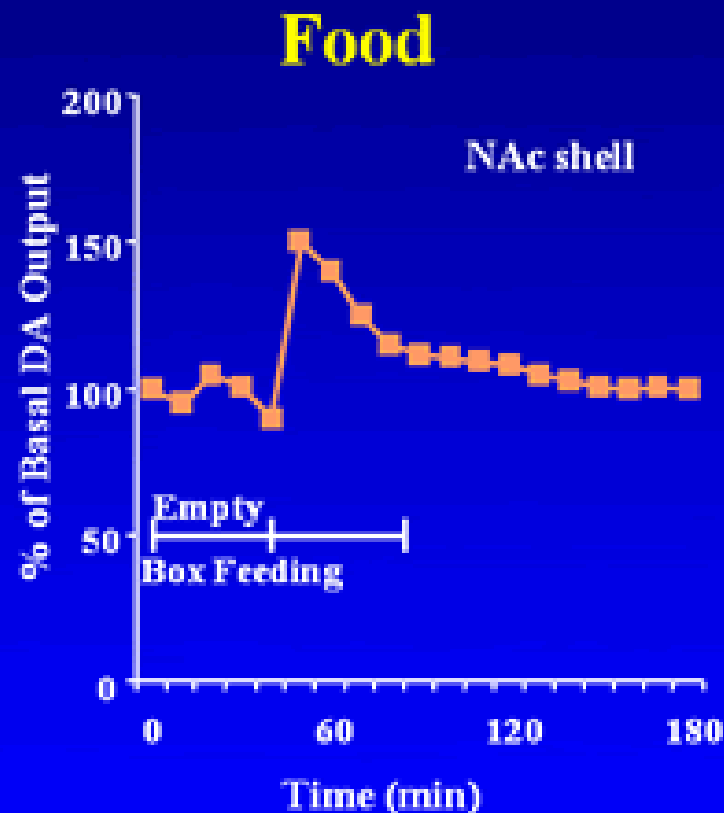
# The Salience Theory of Dopamine: A Matter of Attention Gone Awry



Dopamine's major role...  
"HEY, PAY ATTENTION TO  
THIS!"

ALERTS ABOUT FOOD,  
SEX, DANGER AND PAIN

# *Natural Rewards Elevate Dopamine Levels*



# The Salience Theory of Dopamine: A Matter of Attention Gone Awry



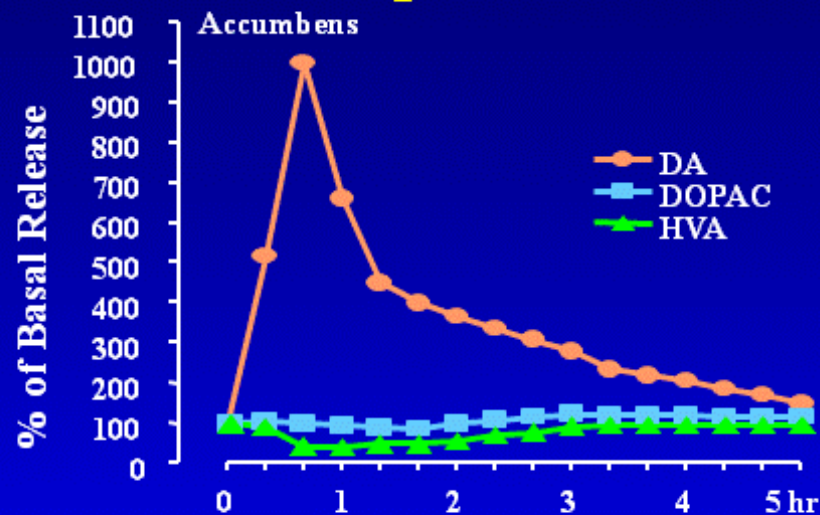
ALERTS ABOUT FOOD,  
SEX, DANGER AND PAIN



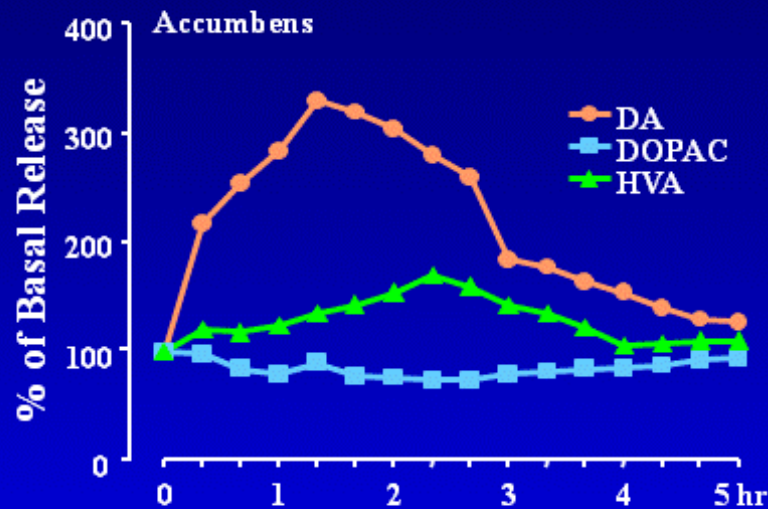
DRUGS  
5 – 10X

# Effects of Drugs on Dopamine Release

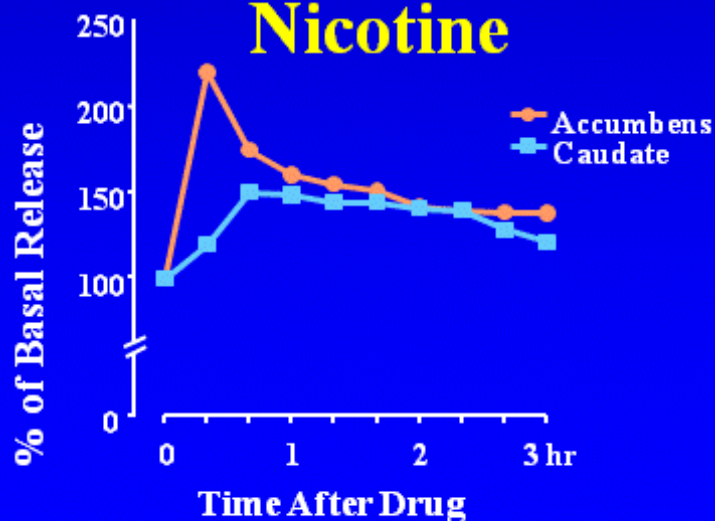
## Amphetamine



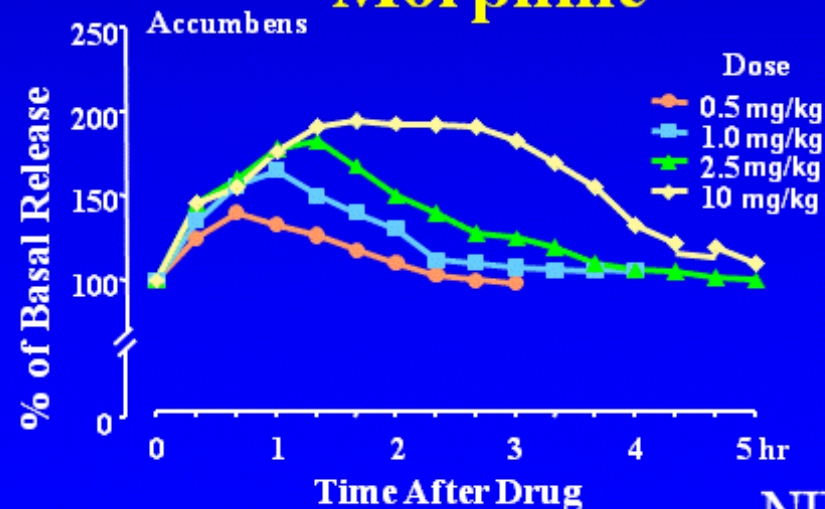
## Cocaine



## Nicotine



## Morphine





# The Salience Theory of Dopamine: A Matter of Attention Gone Awry



ALERTS ABOUT FOOD,  
SEX, DANGER AND PAIN

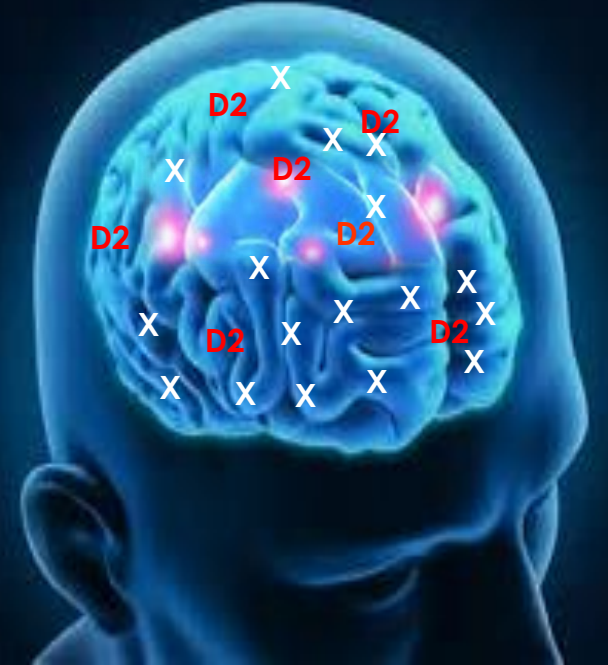
DRUGS  
5 – 10X



Reduction in natural  
production



Increase receptor  
sites



BILATERAL PROCESS

Decrease **D2** Sites

# HIJACKING

## ‘CATCH & RELEASE’

SINGLE  
USE EVENT

LEARNING  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTION  
SHORT TERM MEMORY



## NEUROADAPTATION

LEARNING  
PLANNING  
**INITIATING ACTION**  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTION  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
**TARGETING ATTENTION**

MULTIPLE  
USE  
EVENTS

“Ms.  
Smith,  
your  
court  
hearing  
is  
tomorrow  
morning  
at  
9:00a.m.  
You’re  
first  
on  
the  
docket  
so  
it’s  
important  
that  
you’re  
on  
time.”



"Is she going to ask won't stop by if this test?"

"No, Smith, your court hearing is, tuesday morning at 8:00a.m. You're first on the docket so it's important that you're on time."

"Oh . . . this is really good stuff!"

"My dealer won't stop by if this \$5\$hole is still a drug"

"I'm gonna run outta good stuff!"

"I need that money, Mike better pay me back today!"

"Damn... I'll have to pawn the TV!"

"I bet Jimmy's of my some extra stuff!"

"I'm gonna jump out of my skin!"

"I can't believe that S.O.B. took my last 'Molly'!"



# ***QUALIFYING THE DANGER THRESHOLD***

1.HOW LONG HAVE SUBSTANCES BEEN ABUSED?

Several thin, parallel white lines of varying lengths and slopes are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

# ARRESTED DEVELOPMENT: EXECUTIVE FUNCTIONS

BOOKED AND RELEASED vs. INCARCERATED

LEARNING...PLANNING...INITIATING ACTION...DECISION MAKING...JUDGMENT...  
PROBLEM SOLVING...EMOTION...SOCIAL BEHAVIOR...SHORT TERM MEMORY



# ARRESTED DEVELOPMENT: EXECUTIVE FUNCTIONS

TEMPORARILY  
INCAPACITATED  
ACTIVE USE

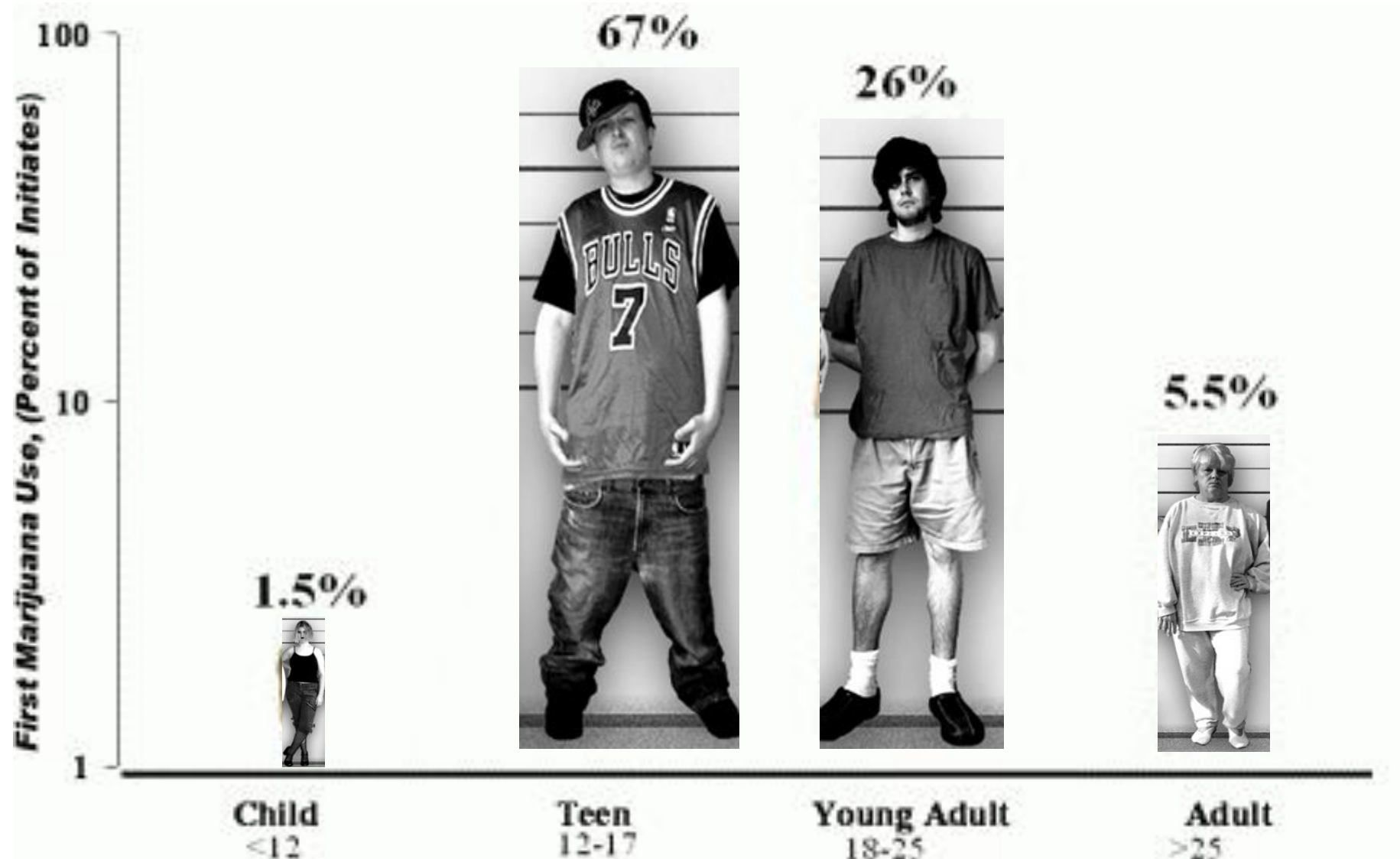
UNDER-DEVELOPED  
PREFRONTAL CORTICAL  
SYSTEM

OR?

HIJACKED  
NEUROBIOLOGICAL  
PROCESS



# Developmental Disorder: Addiction starts early!





# ***QUALIFYING THE DANGER THRESHOLD***

2. HOW SEVERE IS THE CONDITION?

Several thin, parallel white lines are drawn diagonally across the bottom right corner of the slide, extending from the right edge towards the bottom.

# SUBSTANCE USE DISORDERS

## DSM-5

	S	E	V	E	R	E	6+
	E						
	V						
M	O	D	E	R	A	T	E
			R				4-5
M	I	L	D				2-3
			T				
			Y				

# LOSS OF CONTROL

NUMBER OF TIMES USED LARGER AMOUNTS OR  
FOR LONGER THAN INTENDED

REPEATED ATTEMPTS TO QUIT OR CONTROL USE



# TOLERANCE

MARKEDLY DIMINISHED EFFECT USING SAME AMOUNT

MARKEDLY MORE NEEDED TO OBTAIN EFFECT

WITHDRAWAL SYMPTOMS





N  
S A V E - A - L I F E  
L  
O  
X  
O  
N  
E

# NARCAN Nasal Spray

## OVERDOSE EVENTS



Emergency opioid antagonist

Stress the importance of having naloxone kits readily available to individuals, friends and family members!!!

# ***QUALIFYING THE DANGER THRESHOLD***

3. HOW LIKELY IS USE TO CONTINUE WITHOUT INTERVENTION?

Several thin, parallel white lines are drawn diagonally across the bottom right corner of the slide, extending from the right edge towards the center.

**ASAM  
LEVEL  
OF  
CARE**

AMERICAN  
SOCIETY OF  
ADDICTION  
MEDICINE

**INTENSIVE INPATIENT (MEDICALLY MANAGED)**

**N**

**RESIDENTIAL/INPATIENT**

**E**

**R**

**INTENSIVE OUTPATIENT (PARTIAL  
HOSPITALIZATION)**

**E**

**N**

**OUTPATIENT**

**I**

**O**

**EARLY INTERVENTION**

# 3 CRITICAL INTERVENTION CONSIDERATIONS

## 1. ASSEMENT OF PROGRESSION

Discharge Status last program attended

Recovery history

What have they tried since . . .what are they doing now



## 2. ASSEMENT OF STABILITY

What are they doing now

Current supports

## 3. CHALLENGES/BARRIERS TO Tx

# ***QUALIFYING THE DANGER THRESHOLD***

4. HOW PERVASIVE IS THE CONDITION?

Several thin, parallel white lines are drawn diagonally across the bottom right corner of the slide, extending from the right edge towards the center.



# PERVASIVENESS

## ACTIVE USE



**COMPROMISED  
EXECUTIVE  
FUNCTIONING**

## POST ACUTE WITHDRAWAL



**POST-ACUTE  
WITHDRAWAL  
SYMPTOMS**

# PERVASIVENESS

## ACTIVE USE

LEARNING  
PLANNING  
INITIATING ACTION  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTIONS  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
TARGETING ATTENTION

## 1 WEEK – 2 YEARS

ANXIETY/PANIC ATTACKS  
IRRITABILITY  
DEPRESSION/SUICIDAL THOUGHTS  
FATIGUE/INSOMNIA  
MEMORY LOSS  
INABILITY TO CONCENTRATE  
OBSESSIVE THOUGHTS  
CRAVINGS/OBSESSOINS  
ANHEDRONIA  
SUDDEN MOOD SWINGS

# QUALIFYING THE DANGER THRESHOLD

## 5. WHAT IS THE IMPACT ON THE FAMILY?

DSM-5 CRITERIA

DIMINISHED PROTECTIVE  
CAPACITIES



# QUALIFYING THE DANGER THRESHOLD

DSM-5 CRITERIA RELATED  
TO COMPROMISED  
ADULT FUNCTIONING

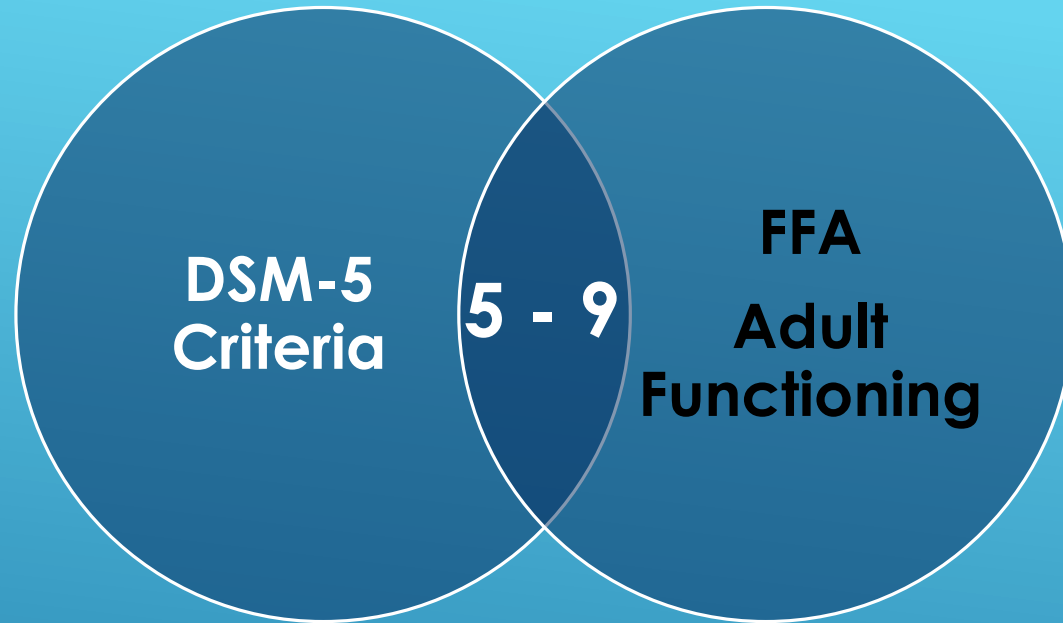
FIVE OF ELEVEN

DIMINISHED PARENTAL  
PROTECTIVE CAPACITIES

BEHAVIORAL (10)  
COGNITIVE (7)  
EMOTIONAL (7)

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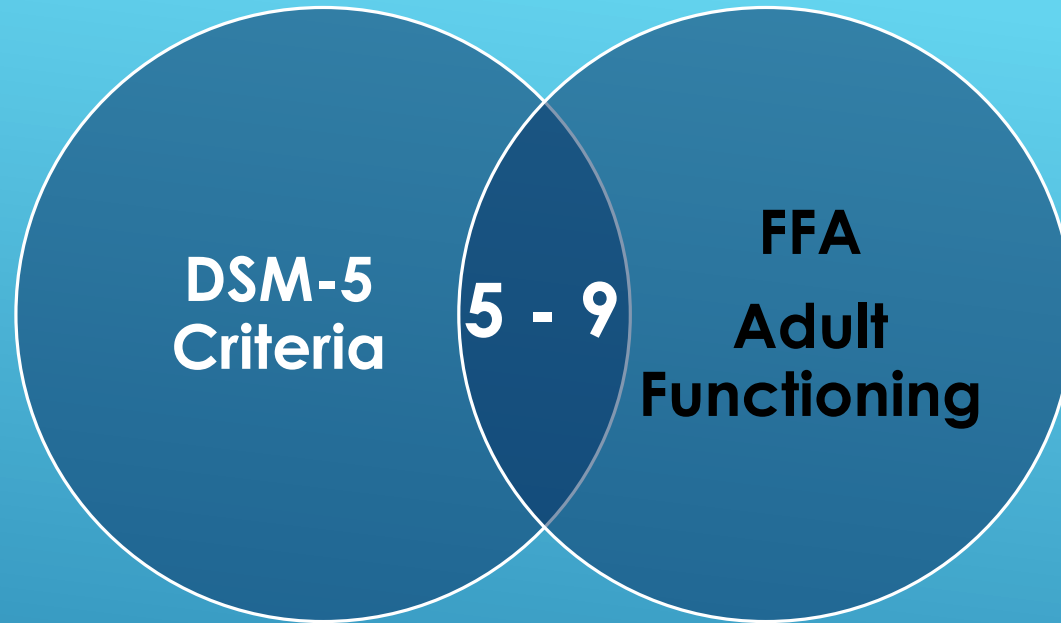
S A F E T Y  
S A F E T Y  
V  
S A F E T Y  
R  
I  
S A F E T Y  
S A F E T Y



5. Role obligation failure
6. Continued use despite social/interpersonal problems
7. Sacrificing activities to use or because of use
8. Use in situations where it is hazardous
9. Continued use despite physical or psychological problem caused or exacerbated by use



S A F E T Y  
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S A F E T Y



## 5. Role obligation failure

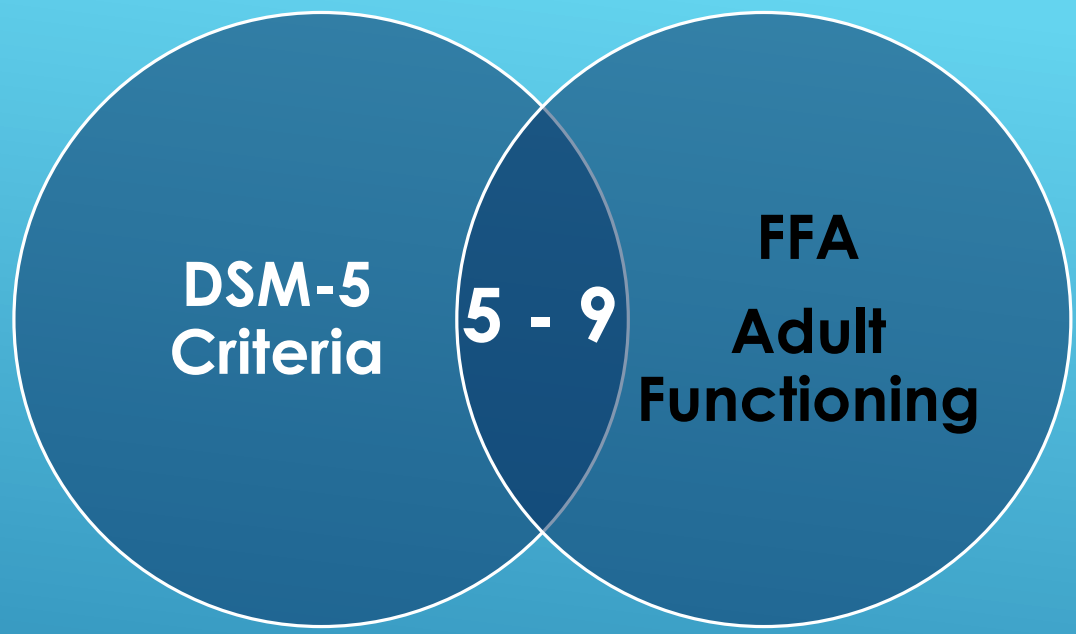
“Parentified” child

Couch-surfing

Extended unemployment

**Family made arrangement**

S A F E T Y  
S A F E T Y  
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I  
S A F E T Y  
S A F E T Y



6. Continued use despite  
social/interpersonal problems

Over/Under functioning  
Relationship difficulties



**“POOR ME...”**

**“POOR ME...”**

**“POUR ME ANOTHER DRINK”**

# **ESTABLISHING COMPETENCE and MAKING A CONNECTION**

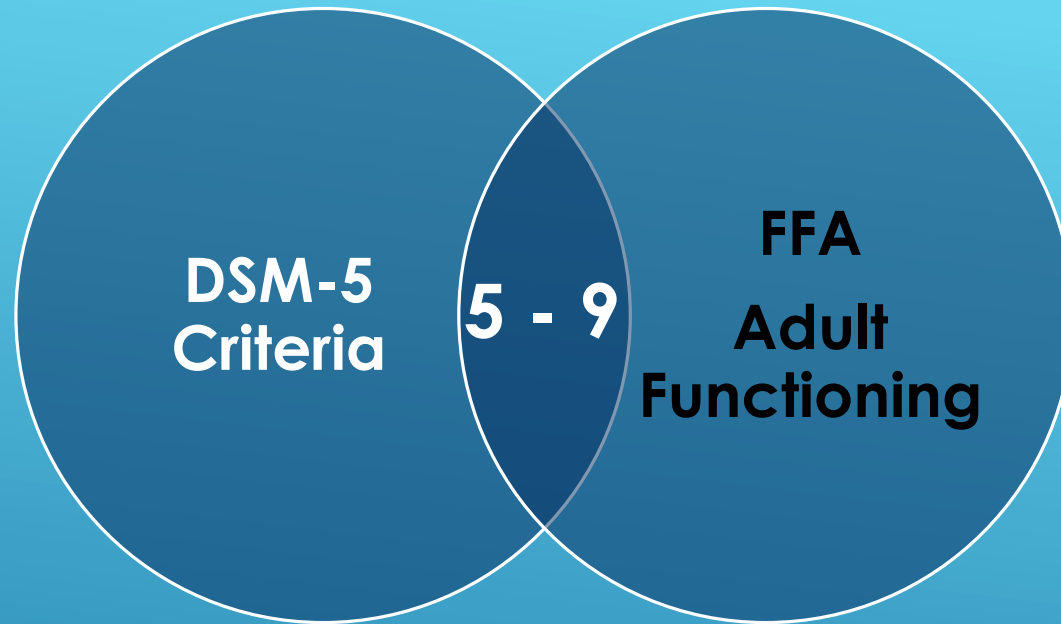
## **RELATIONSHIP DIFFICULTIES**

**Plays the “Sympathy Card”**

**Tries to make you angry**

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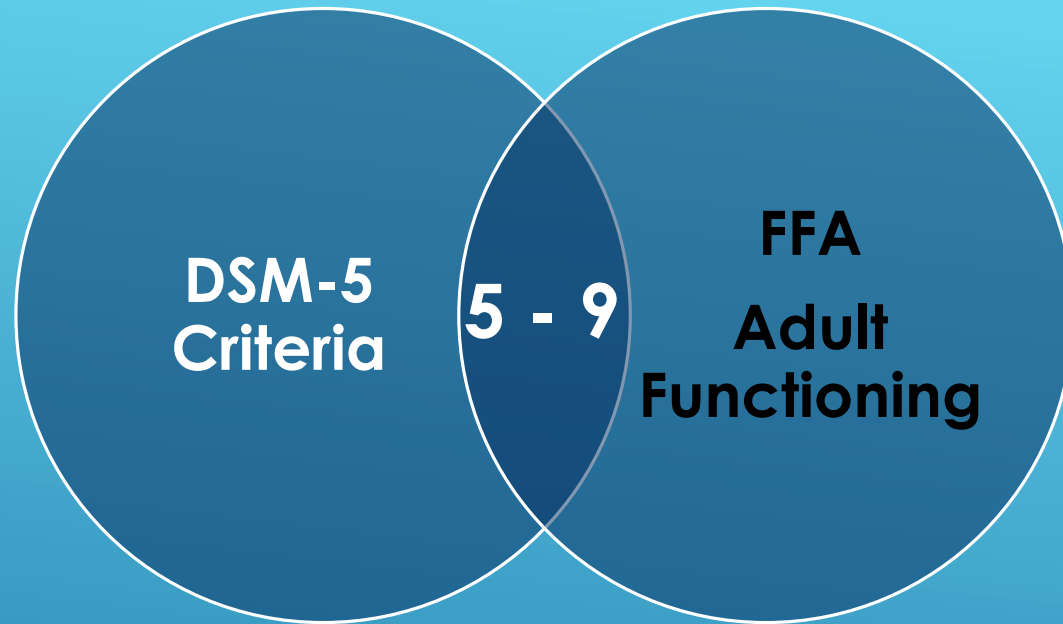
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S A F E T Y



6. Continued use despite  
social/interpersonal problems

Over/Under functioning  
Relationship difficulties  
Family "cut-offs"

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S A F E T Y

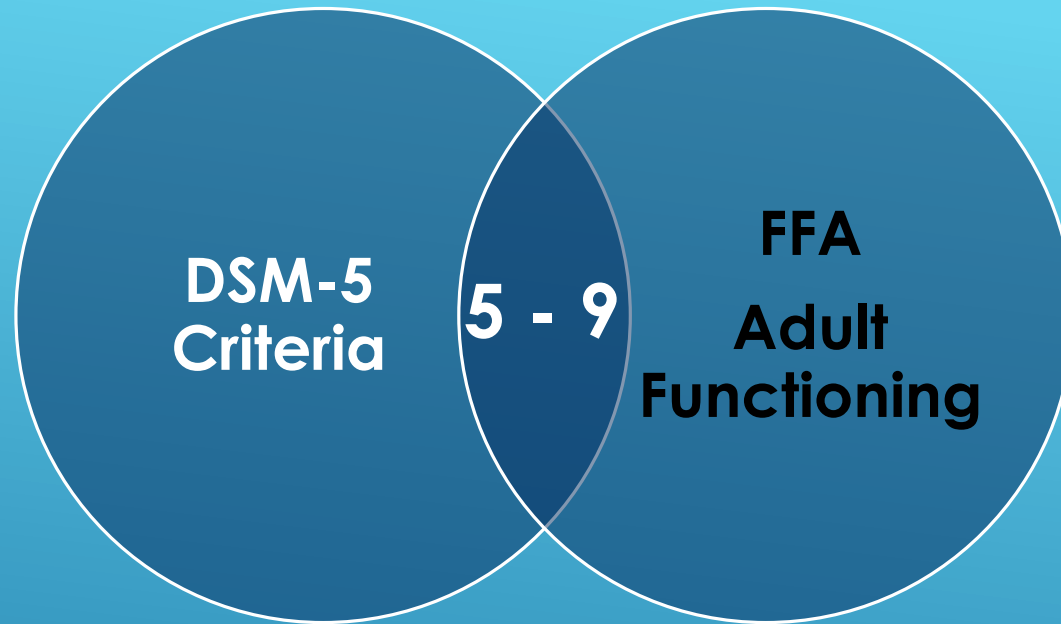


## 7. Sacrificing activities to use or because of use

Loss of caregiver-child interactions  
Loss of quality time with partner  
Missed celebratory events  
Loss of "family traditions"



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S A F E T Y



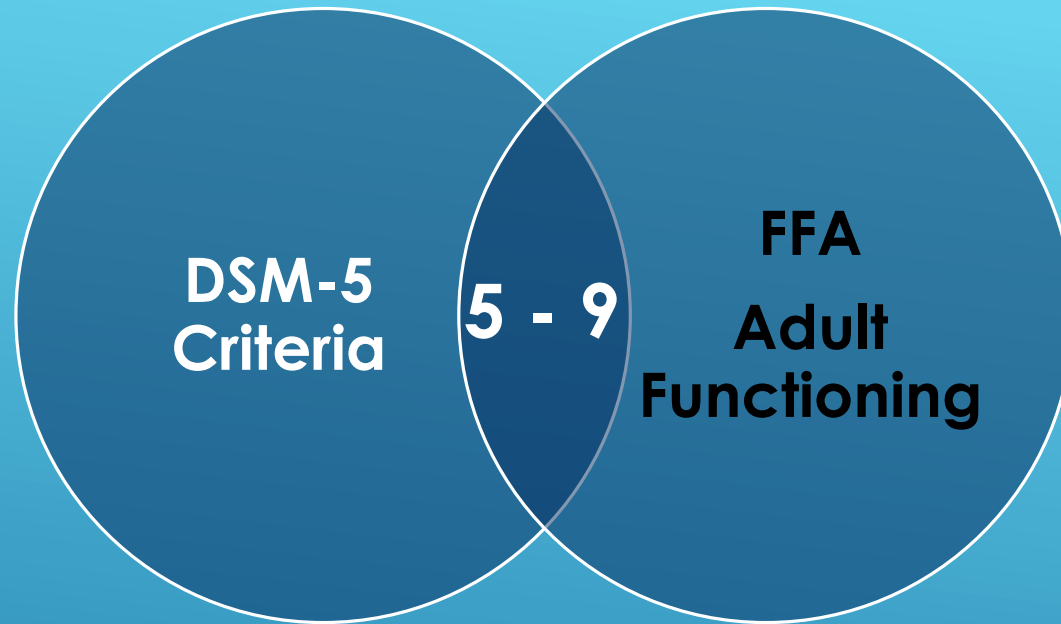
**DUIs**

**Use at work**

8. Use in situations where it is hazardous

**Use knowing the likelihood of drug testing - use during pregnancy/on probation/open investigation/under supervision**

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S A F E T Y  
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S A F E T Y  
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I  
S A F E T Y  
S A F E T Y



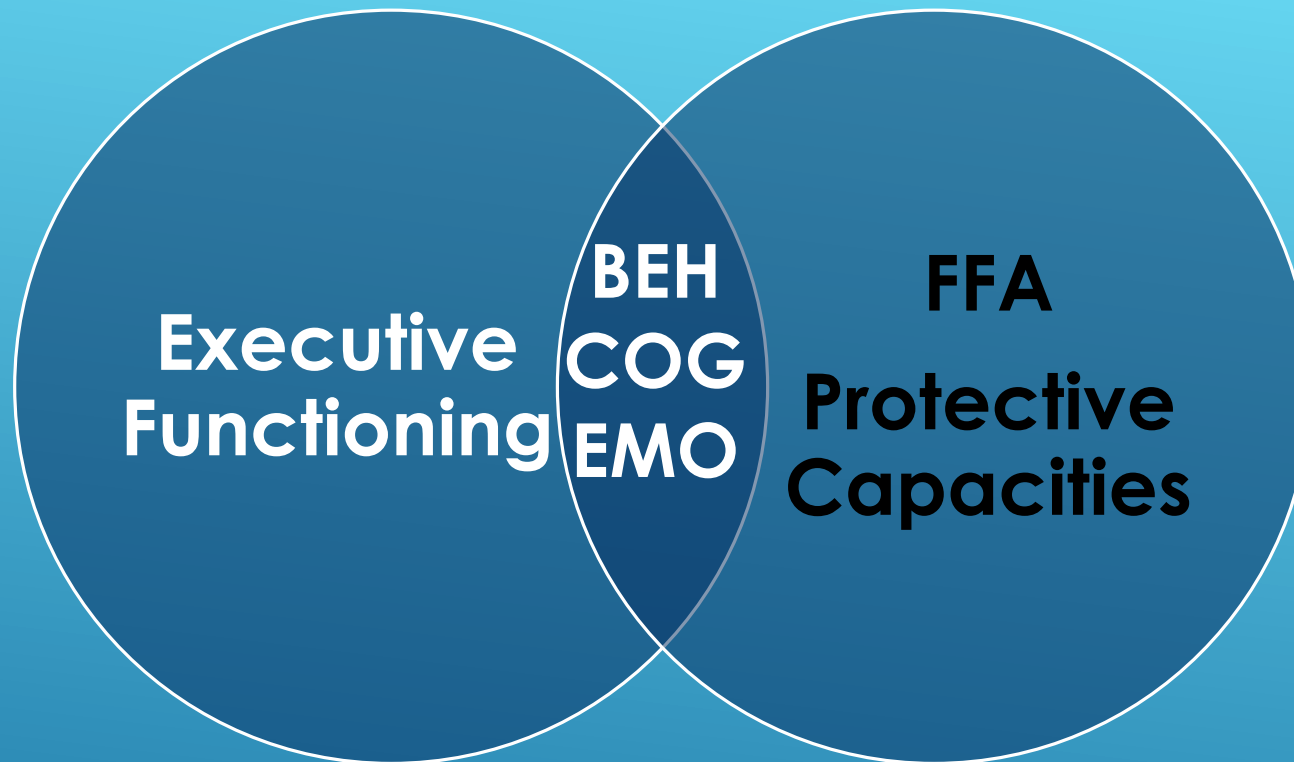
9. Continued use despite physical or psychological problem caused or exacerbated by use

Overdose event

Hospitalizations

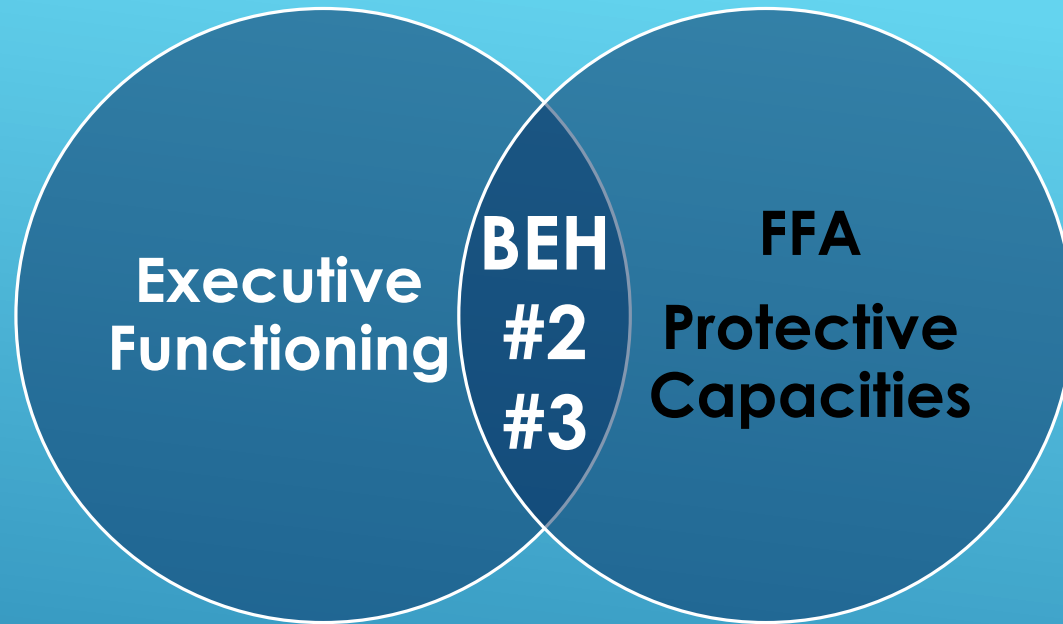
Another overdose event

S A F E T Y  
S A F E T Y  
V  
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I  
S A F E T Y  
S A F E T Y



**DIMINISHED PROTECTIVE  
CAPACITIES**

S A F E T Y  
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S A F E T Y



2. The parent/caregiver takes action.
3. The parent/caregiver demonstrates impulse control.

# BEHAVIORAL PROTECTIVE CAPACITY

The parent/caregiver **TAKES ACTION**.

- People who proceed with a positive course of action.
- People who take necessary steps to complete tasks.

LEARNING  
PLANNING  
INITIATING ACTION  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTIONS  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
TARGETING ATTENTION





# BEHAVIORAL PROTECTIVE CAPACITY

The parent demonstrates **IMPULSE CONTROL**.

This refers to a person who is deliberate and careful; who acts in managed and self-controlled ways.

- People who think about consequences and act accordingly.
- People who are able to plan.

LEARNING  
PLANNING  
INITIATING ACTION  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTIONS  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
TARGETING ATTENTION



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1. The parent/caregiver plans and is able to articulate a plan to protect children.

# COGNITIVE PROTECTIVE CAPACITY

The parent **PLANS** and is able to **ARTICULATE A PLAN** to protect child.

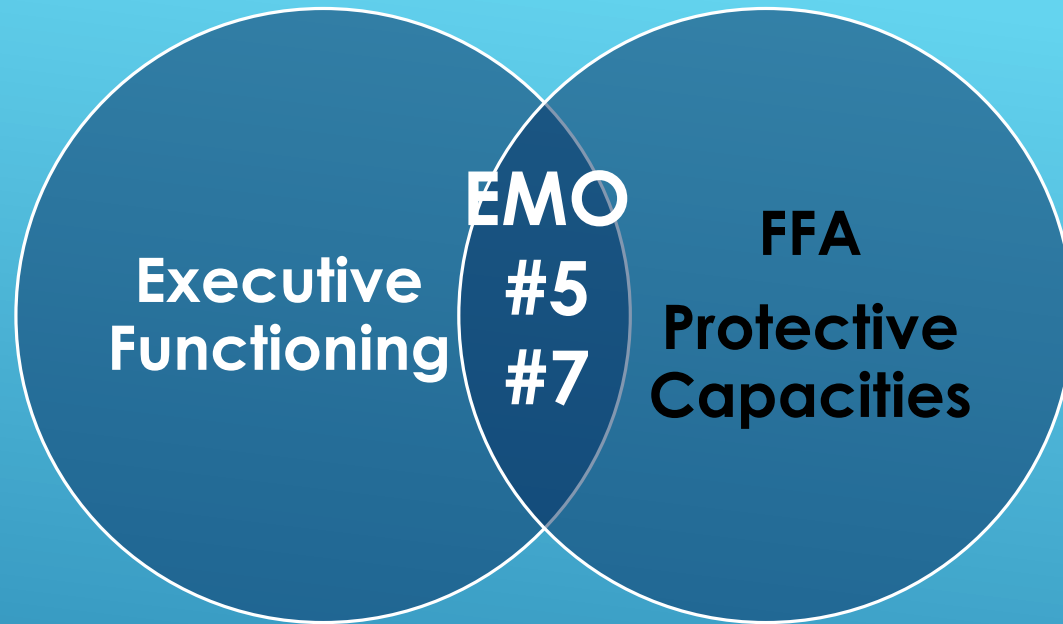
This refers to the thinking ability that is evidenced in a reasonable, well-thought-out plan.

- People who are realistic in their idea and arrangements about what is needed to protect a child.
- People whose awareness of the plan is best illustrated by their ability to explain it and reason as to why it is sufficient.



LEARNING  
PLANNING  
INITIATING ACTION  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTIONS  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
TARGETING ATTENTION

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5. The parent/caregiver displays concerns for the child and the child's experience and is intent on emotionally protecting the child.
7. The parent/caregiver expresses love, empathy and sympathy toward the child.

# EMOTIONAL PROTECTIVE CAPACITY

The parent **DISPLAYS** concerns for the child and the child's experience and is intent on emotionally protecting the child.



- People who show compassion through sheltering and soothing a child.
- People who are calm, pacify, and appease a child.

LEARNING  
PLANNING  
INITIATING ACTION  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTIONS  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
TARGETING ATTENTION

# EMOTIONAL PROTECTIVE CAPACITY

The parent EXPRESSES LOVE, EMPATHY AND SENSITIVITY TOWARD the child.



This refers to active affection, compassion, warmth, and sympathy.

- People who relate to, can explain, and feel what a child feels, thinks and goes through.

LEARNING  
PLANNING  
INITIATING ACTION  
DECISION MAKING  
JUDGMENT  
PROBLEM SOLVING  
EMOTIONS  
SOCIAL BEHAVIOR  
SHORT TERM MEMORY  
TARGETING ATTENTION





# PARENT – CHILD ATTACHMENT



Dopamine, along with other biological mechanisms, activates the neural pathways necessary for parents' motivation to bond with, nurture, and protect offspring. Once “hi-jacked” drug produced dopamine competes with and impedes capacity for positive caregiving.

**DOUBLE  
WHAMMY**

Repeated exposure to addictive substances reduces parents' dopaminergic response to stress, resulting in extreme distress and vulnerability to negative emotions when caring for distressed children.

# PARENTING DOUBLE WHAMMY

Parents who are substance-involved are more likely to:

- **Decreased attentiveness and engagement with their children**
- More authoritarian parenting
- Dysfunctional or harsh disciplinary practice
- **Increased vulnerability to negative emotions triggered by crying, attachment challenges, poor suckling or difficulty eating**

# DECREASED ATTENTIVENESS AND ENGAGEMENT WITH THEIR CHILDREN



# THORNTON LAB RAID

APRIL 4, 2002

On August 26, 2016 CPI [redacted] and Substance Abuse and Mental Health Integration Specialist [redacted] (herein after referred to as SAMH Specialist [redacted]) and case manager [redacted] completed a joint visit with the mother for further assessment. SAMH Specialist [redacted] notes the mother presented with a flat affect and an apathetic and detached demeanor, especially regarding the baby. The mother appeared sluggish and often there was a 5-10 second lapse in her responding to questions or when she was interacting with one of the individuals at the visit. The mother often stared before responding and it came across that she may have trouble comprehending what was being said. The mother admitted in the meeting that she wanted to stay in denial regarding her baby having issues, despite the doctors telling her that her baby is underweight, and with service providers in the home helping her. The mother displayed diminished responsiveness to her baby and did not respond or look at the baby when she was fussing or whining. The mother had to be prompted to change the baby during the visit and also feed the baby as the baby was crying and the mother was not reacting. It has been recommended by SAMH Specialist the mother has a substance abuse and mental health evaluation to evaluation her methadone and Xanax use along with her slow responding and processing.

# THERAPEUTIC PARENTING INTERVENTIONS

## SKILL-BASED PARENTING

OLDER CHILDREN

COGNITIVE BEHAVIORAL COMPONENTS  
EXPLORE THINKING ABOUT PARENTING  
TAUGHT NEW PARENTING BEHAVIORS

INCREDIBLE YEARS,  
PARENT-CHILD INTERACTION THERAPY  
PARENT MANAGEMENT TRAINING  
TRIPLE P POSITIVE PARENTING PROGRAM

CRITICIZED FOR NOT ATTENDING TO THE  
EMOTIONAL QUALITY OF CHILD-PARENT  
RELATIONSHIPS

## ATTACHMENT-BASED PARENTING

INFANTS AND VERY YOUNG CHILDREN  
REPEATED INTENSE EMOTIONAL EXPERIENCES  
FOCUS ON CHILD'S ATTACHMENT NEEDS  
FOCUS ON QUALITY OF INTERACTION

MOTHERS AND TODDLERS PROGRAM (MTP)  
ATTACHMENT AND BIOBEHAVIORAL  
CATCHUP (ABC)  
CIRCLE OF SECURITY PARENTING  
PREVENTION(CoS)  
MINDING THE BABY (MTB)  
CHERISH THE FAMILY (CTF)



# Thank you!

John S. Harper  
Manager

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Office of Child Welfare  
Florida Department of Children & Families  
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[john.harper@myflfamilies.com](mailto:john.harper@myflfamilies.com)

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