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FOR HEALTH LAW POLICY, BIOTECHNOLOGY, AND BIOETHICS AT HARVARD LAW SCHOOL



Hot Topics in Family Court: The Latest Science on Substance Use, Intimate Partner Violence, Developmentally Sensitive Parenting Plans, and Emerging Issues

The Honorable Lee Peterson

Stephanie Tabashneck, PsyD, JD

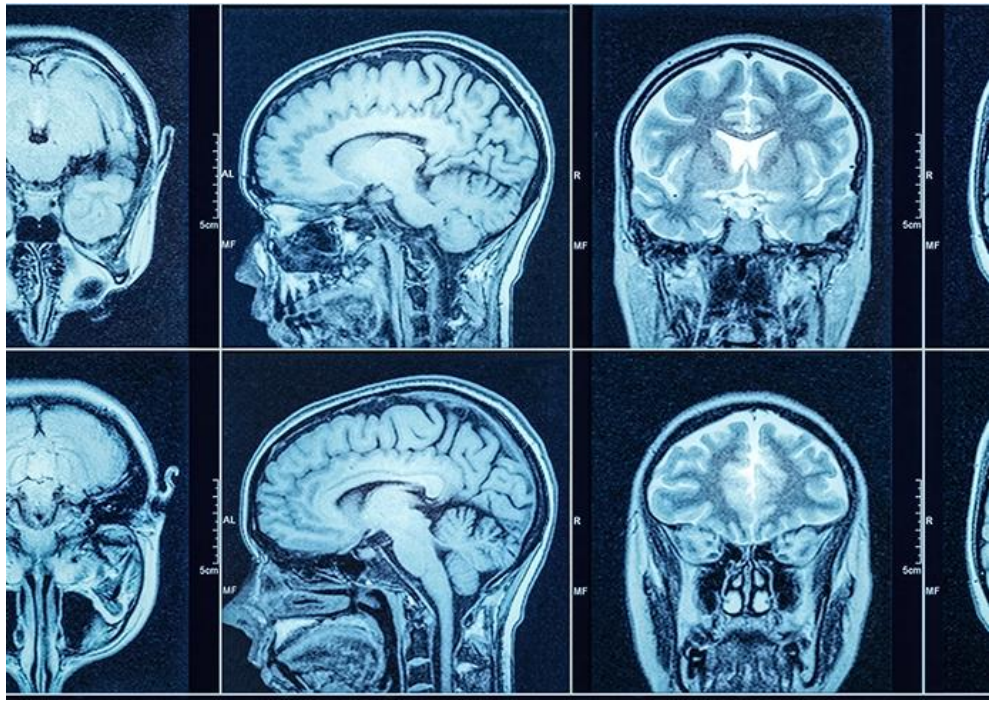
October 16, 2026

Iatrogenic/Juridogenic Harms in the Legal System

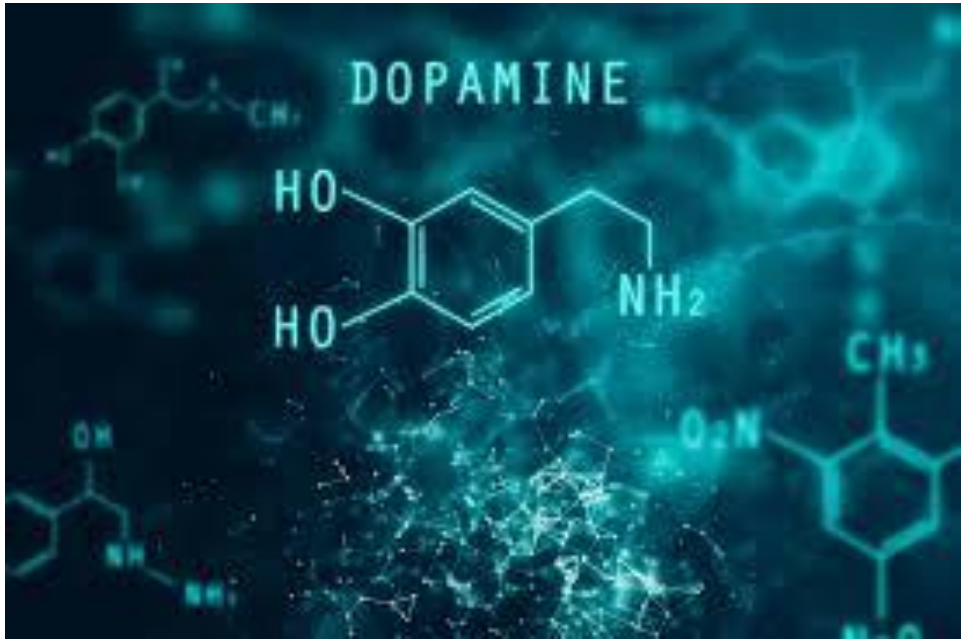
Iatrogenic harm in the legal system, also called juridogenic harm, refers to the harm caused to individuals by the court system itself, even when the intention is to help or process a case.



Science can point us in the right direction









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Drug and Alcohol Dependence Reports 10 (2024) 100221

Contents lists available at ScienceDirect

Drug and Alcohol Dependence Reports

journal homepage: www.elsevier.com/locate/dadr

Review

Community-based substance use treatment programs for reentering justice-involved adults: A scoping review

Brian D. Graves [a,*], Michael Fendrich [b]

[a] The University of Georgia, USA
[b] Medical College of Wisconsin, USA

HIGHLIGHTS

- Scoping review of substance use treatment for justice-involved adults reentering the community.
- Themes identified participant characteristics, treatment delivery, and treatment benefits.
- More studies showed positive impact for substance use than criminal justice outcomes.
- Few studies examined racial/ethnic disparities or implementation in rural areas.

ARTICLE INFO

Keywords:
Substance use treatment
Community-based
Criminal justice
Reentry

ABSTRACT

Introduction: For adults involved with the criminal justice system who are reentering their communities post-incarceration, there is a large need for community-based substance use treatment. Little is known, however, about the types, availability, and benefits of programs targeting the reentry population in community settings that operate independently from the criminal justice system.
Methods: We conducted a scoping review of community-based treatment programs for substance use among reentering justice-involved adults to examine the contemporary state of literature and identify research gaps. We searched four databases for peer-reviewed articles conducted in the United States and published between 2017 and 2021.
Results: The final sample included 58 articles. Interventions varied, but the two most prominent were medications for opioid use disorder (35%) and peer support or social support interventions (22.4%). Studies were more likely to show positive impact on substance use outcomes than criminal justice outcomes. Themes were identified around participant characteristics, treatment delivery, and treatment benefits.
Conclusions: Findings from this scoping review suggest that the range of evidence-based strategies for substance use treatment targeting the reentry population is growing, but there is a need for additional research that examines implementation, cost effectiveness, and racial/ethnic disparities.

1. Introduction

Ongoing patterns of mass incarceration beginning over 20 years ago have marked consequences not only for people while they are imprisoned, but also once they are released and initiating their reentry into the community. In 2015, it was estimated that close to 650,000 individuals reentered the community from state and federal prisons and that another 10.6 million people cycled through local jails (Carson, 2018; National Institute of Corrections, 2023). Many of those being released present with a host of physical and behavioral health treatment needs that often go unaddressed in prison, increasing the potential for reincarceration (National Research Council and Institute of Medicine, 2013). Data suggest that between half to two thirds of justice-involved individuals enter the prison system with a substance use disorder (SUD; Puglisi et al., 2022). Nevertheless, prison systems are characterized by a lack of access to up-to-date strategies for addressing substance use, such as medications for opioid use disorder (MOUD; Nunn et al., 2009; Moore et al., 2019). Indeed, research suggests that the adverse opioid treatment experiences in prison may actually create an aversion to MOUD at reentry (e.g., Maradiaga et al., 2016).

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Clear Filters

U.S. substance use harm reduction efforts: a review of the current state of policy, policy barriers, and recommendations

Keywords Naloxone; Drug checking equipment; Syringe service programs; Overdose prevention centers; Medications for opioid use disorder; Pre-exposure prophylaxis

(2025)

Exploring Social Impairment in Those With Opioid Use Disorder: Linking Impulsivity, Childhood Trauma, and the Prefrontal Cortex

Keywords opioid use disorder; social functioning; impulsivity; childhood trauma; prefrontal cortex; brain; behavior; ACEs

(2025)

Helping Opioid Use Disorder and PTSD with Exposure (HOPE): An Open-Label Pilot Study of a Trauma-Focused, Integrated Therapy for OUD/PTSD

Keywords opioid use disorder; posttraumatic stress disorder; PTSD; integrated treatment; exposure therapy

(2025)

Inequities in Opioid Administration by Race and Ethnicity for Hospitalized Patients With and Without Substance Use Disorders

Keywords health equity; pain management; substance use disorders; hospital medicine; hospital; medicine

(2025)

Neurobiological intersections of stress and substance use disorders

Keywords HPA axis; neuroinflammation; early life stress; mood disorders; substance use disorder

(2025)

Efficacy and Clinical Application of Physical Activity in Substance Use Disorder Rehabilitation: A Review on Mechanism and Benefits

Keywords substance use disorders; physical activity; relapse prevention; craving reduction; mental health; rehabilitation

(2025)

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Neurobiological intersections of stress and substance use disorders

Mass General Brigham

Neurobiological intersections of stress and substance use disorders

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Kairo Alan Albernaz-Mariano
Luiza Helena Halas Covre
Paloma Marinho Juca
Robbert Mota Pereira
Show All Authors

COMPREHENSION

Simple — Original

SUMMARY

Stress exposure is a risk factor for psychiatric disorders and substance use disorders (SUDs). This review explores how stress alters brain circuits, neurotransmitters, and inflammation, highlighting molecular targets for

Keywords HPA axis; neuroinflammation; early life stress; mood disorders; substance use disorder

Introduction

Substance Use Disorders, or SUDs, are brain illnesses. People with SUDs feel a strong need to find and use drugs, even when it causes many problems. These problems can be mild, medium, or serious. In 2022, about 64 million people worldwide had SUDs. This number went up by 3% in just five years. Many people with SUDs also have other mental health issues. For example, about 1 in 4 people with serious sadness (depression) also have SUDs, and 1 in 3 people with bipolar disorder do. SUDs are also often seen with general worry (anxiety) and stress from bad past events (PTSD).

Stress is a normal way the body reacts to things around it. It can change how a person feels in their body or mind. When stressed, the brain releases chemicals. These chemicals help the body react, but too much stress can cause problems. Certain brain chemicals play a big part in how

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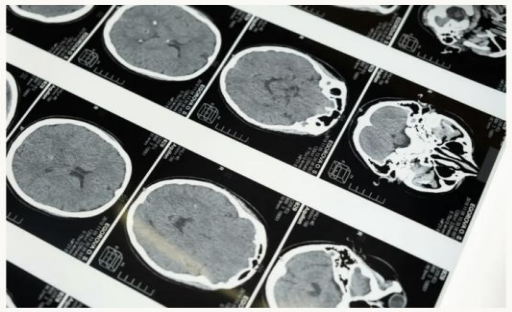
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Understanding Addiction and the Legal System

SUMMARY

This course explores the intersections between addictions and the criminal justice system. Participants explore the scientific and medical realities of addictions and substance use disorders, the foundations of effective treatment, and the complex relationship between incarceration, addiction, and recovery. The course also covers essential topics such as the neurobiology of addiction, trauma and sex trafficking, the War on Drugs, and the changing landscape of marijuana use.



Lesson 1: Addiction & the Brain

5 minutes to complete



Lesson 2: 10 Myths of Addiction

3 minutes to complete



Lesson 3: Adolescents and Early Substance Use

5 minutes to complete



Lesson 4: Trauma and Substance Use



Lesson 5: Good Treatment for Substance Use Disorder

3 minutes to complete



Lesson 6: The Effect of Incarceration on Recovery

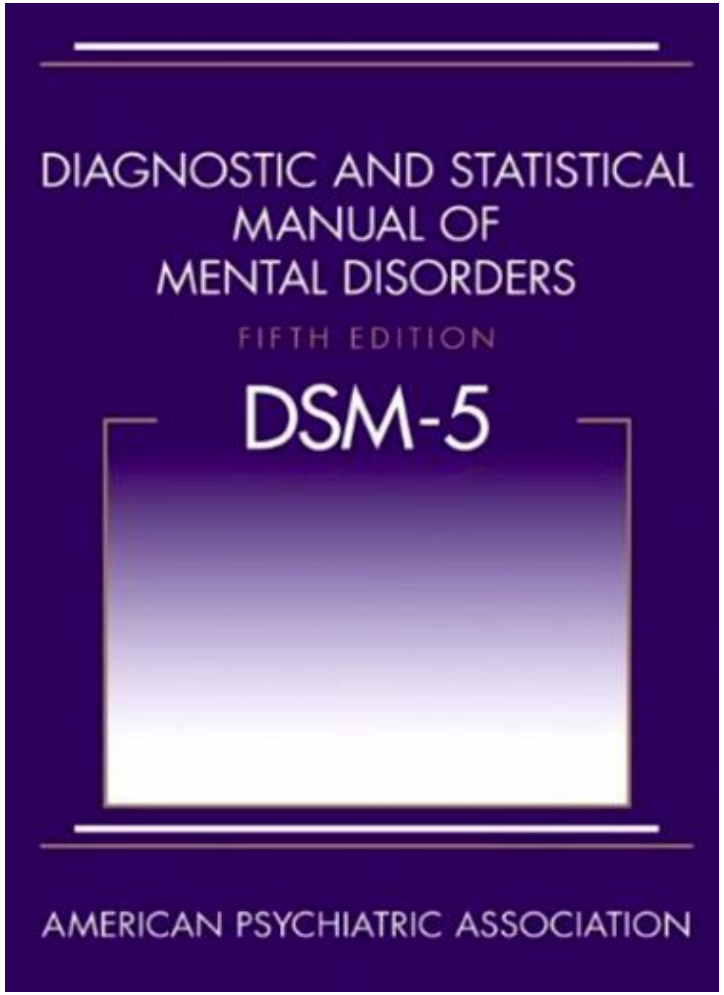
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The Science of Addiction



What is a Substance Use Disorder?



DSM-V: Diagnostic Criteria for Substance Use Disorder

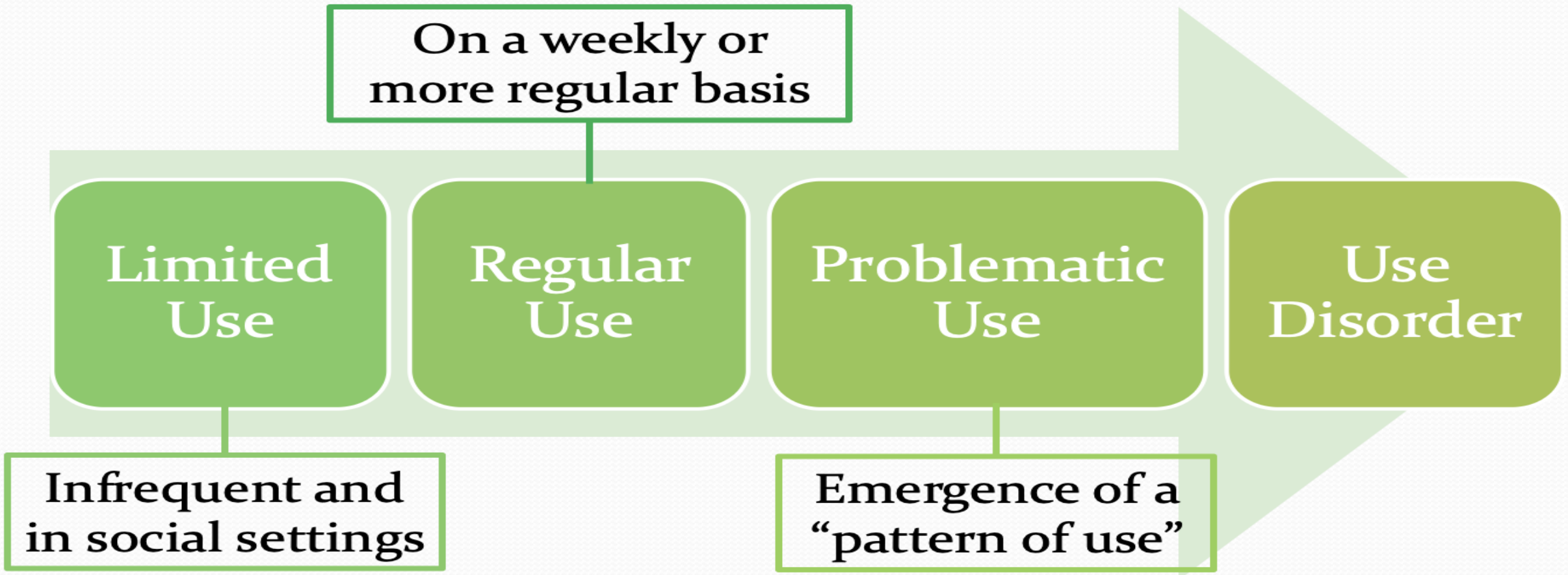
AMOUNT	ACTIVITIES
Take the substance in larger amounts & for longer than intended.	Stopping or reducing important social, occupational or recreational activities due to substance use.
CONTROL	HAZARD
Want to cut down or quit but are unable to.	Continually using the substance in physically hazardous situations such as driving under the influence.
TIME	HARM
Spend large amounts of time obtaining the substance.	Consistently using the substance, despite knowledge of the substance causing persistent or recurrent physical or psychological problems.
CRAVINGS	TOLERANCE
Experience cravings or strong desires to use the substance.	Building a tolerance — the need for markedly increased amounts of the substance to achieve the desired effect, or a markedly diminished effect with continued use of the same amount of the substance
OBLIGATIONS	WITHDRAWAL
Repeatedly unable to carry out major obligations at work, school or home due to substance use.	Feeling withdrawal symptoms – as either a characteristic syndrome or when the substance is used to avoid withdrawal.
SOCIAL	
Continuing to use the substance despite persistent or recurring social or interpersonal problems or harm to relationships.	

Substance Use Disorder Severity

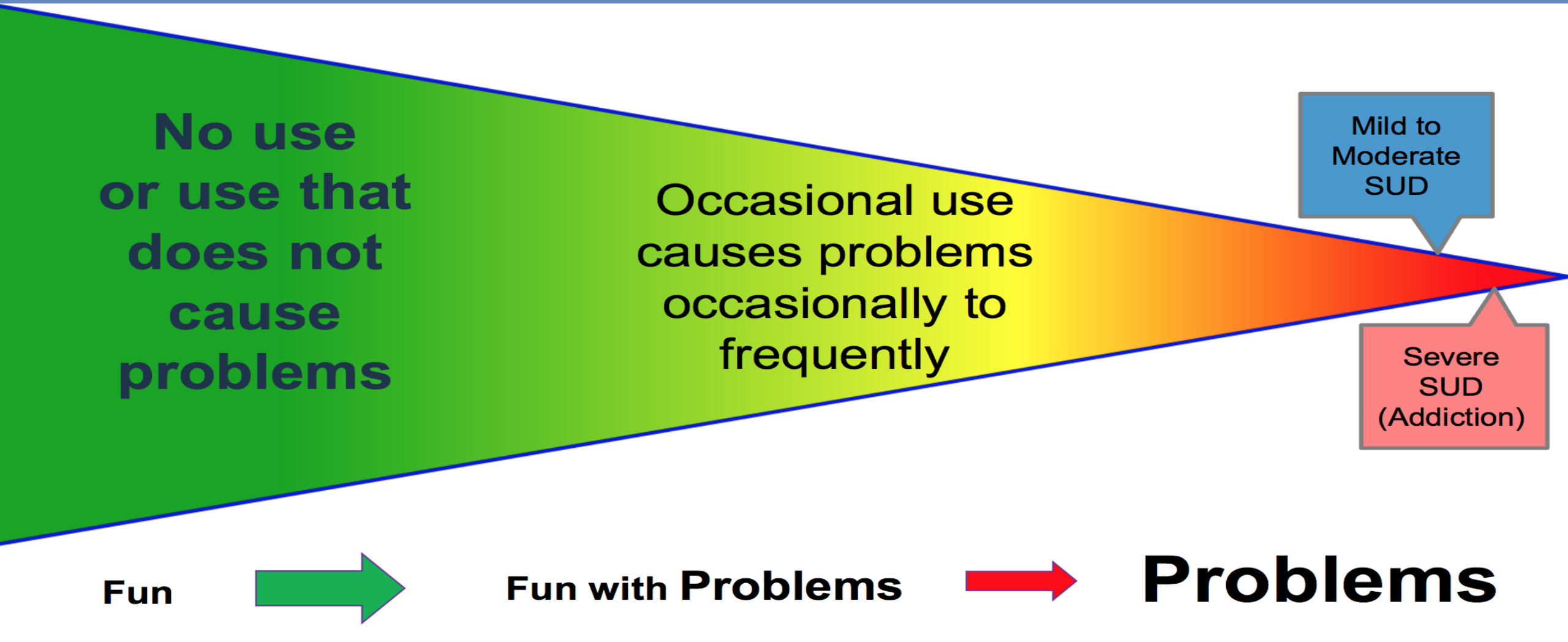
Diagnosis of mild, moderate, or severe substance use disorder is based on the number of criteria endorsed over past year



Substance Use Patterns are on a Continuum

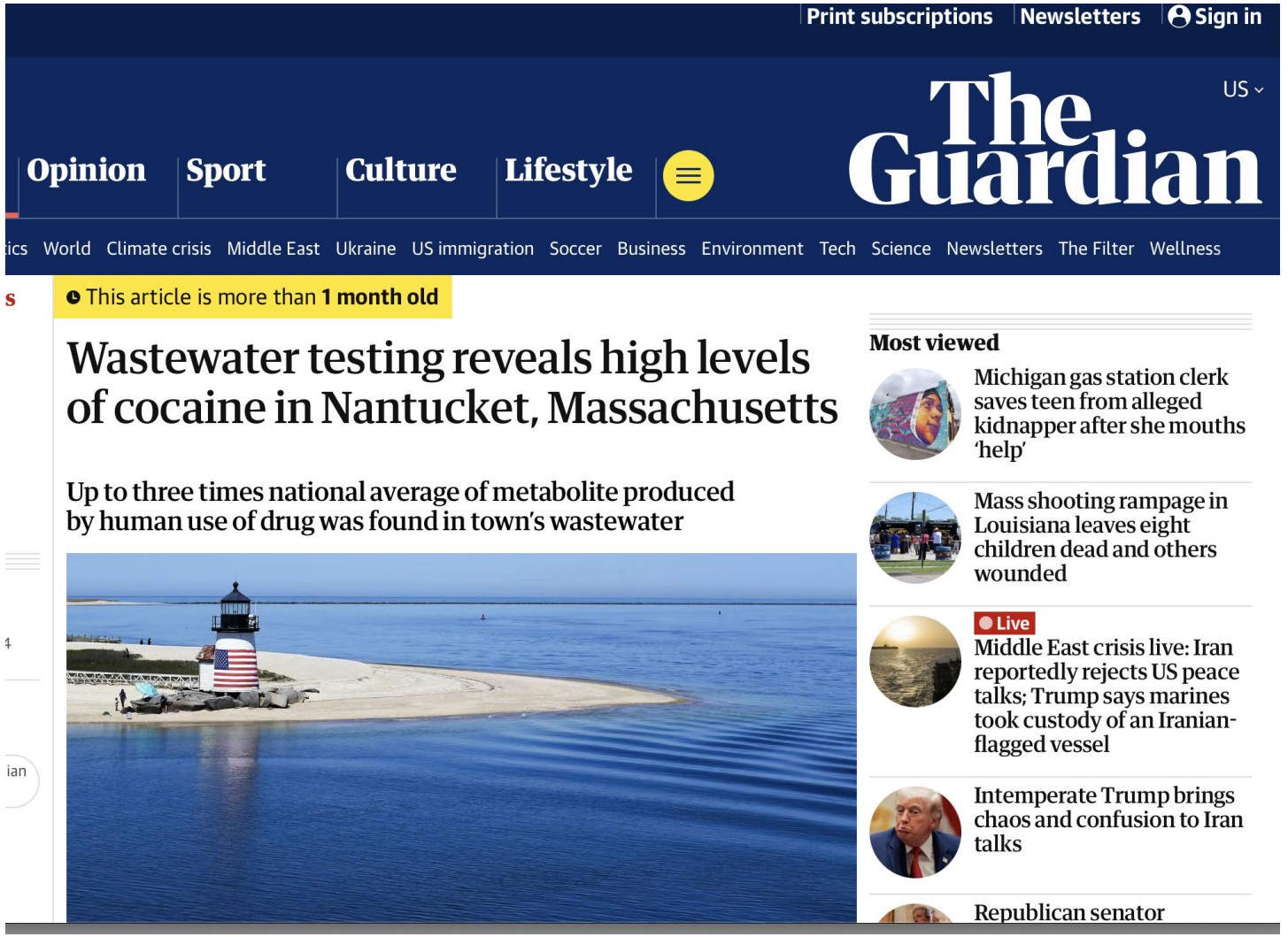


Definitions of a Spectrum:
Stimulant Use to Stimulant Use Disorder:
Mild to Moderate to Severe



Who has been to or heard of Nantucket?





Key Principles

Consensus in medical and scientific communities that **substance use disorders should be treated like other chronic medical conditions**

- Like other chronic diseases such as heart disease or asthma, this is an issue with the chemicals and receptors in the brain
- There is a genetic component

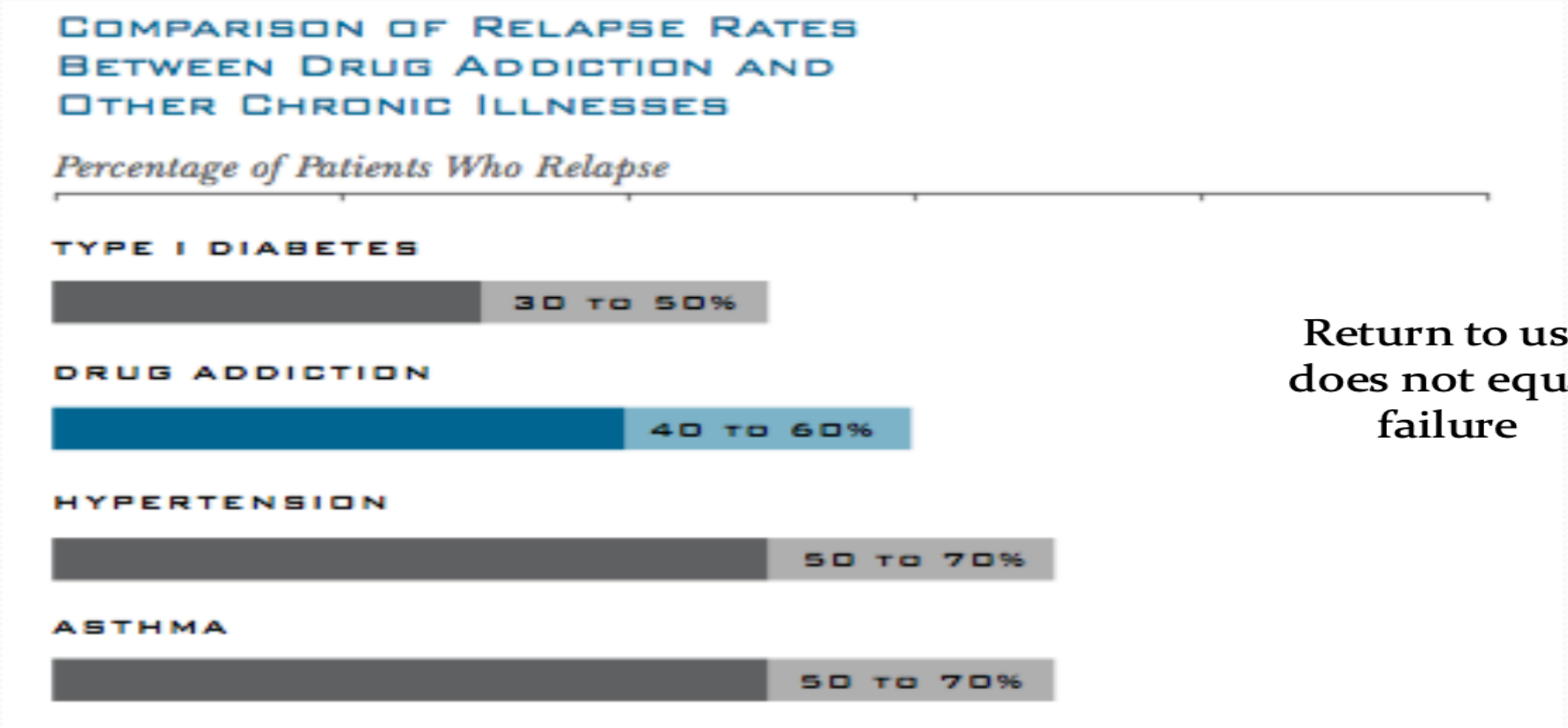


AMA

Key Principles

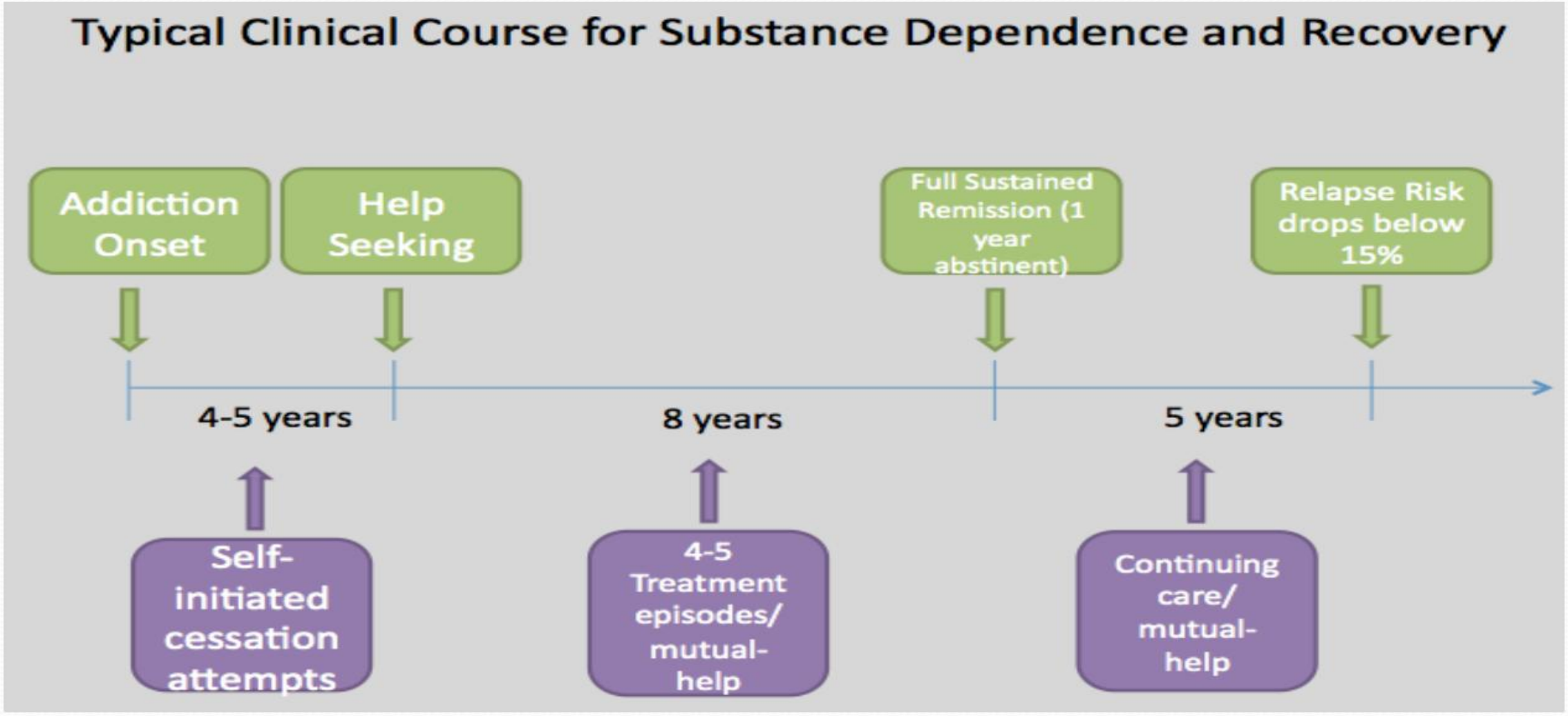
- Returns to use ("relapse") are often a part of SUD
- Improper treatment, stress, and unmanaged co-occurring conditions can increase risk of return to use

Relapse across chronic disorders



Return to use does not equal failure

Chronic Illness Model



MYTH VS REALITY

MYTH	FACT
People who use drugs are always addicted	Most people who use substances do not develop substance use disorder or an active addiction
People with substance use disorder just want to get high	People use to avoid withdrawal, cope with trauma, regulate distress. After awhile, they stop getting high
People can quit whenever they want	SUD alters brain circuitry — quitting is very difficult

MYTH VS REALITY

MYTH	FACT
You must hit rock bottom for treatment to work	Treatment can happen whenever. Early intervention improves outcomes and prevents harm
People must want treatment for it to be effective	Motivation often develops *during* treatment — mild pressure can open a door
Treatment must be abstinence-only	Effective treatment includes harm reduction, medication, and gradual change.

MYTH VS REALITY

MYTH	FACT
Tough, confrontational interventions and yelling work best	Calm, dignity-affirming approaches are more effective
Treatment only needs to happen once.	Recovery is long-term — multiple episodes of care are often needed.
Addiction reflects weakness or failure.	SUD is a medical condition reflected in our DNA— not character



Bonus Myths from my Failures

MYTH

A person must have insight into their substance use disorder

Drug testing results should determine parenting time

People must tell the truth about their substance use

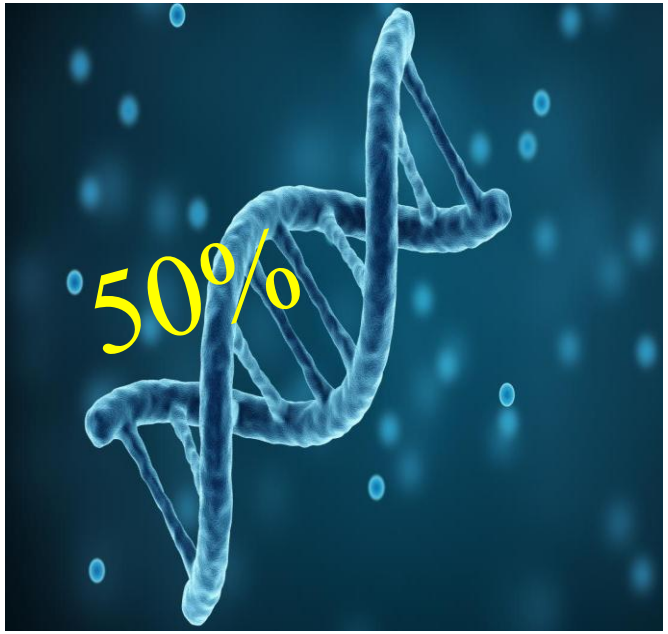
LANGUAGE MATTERS

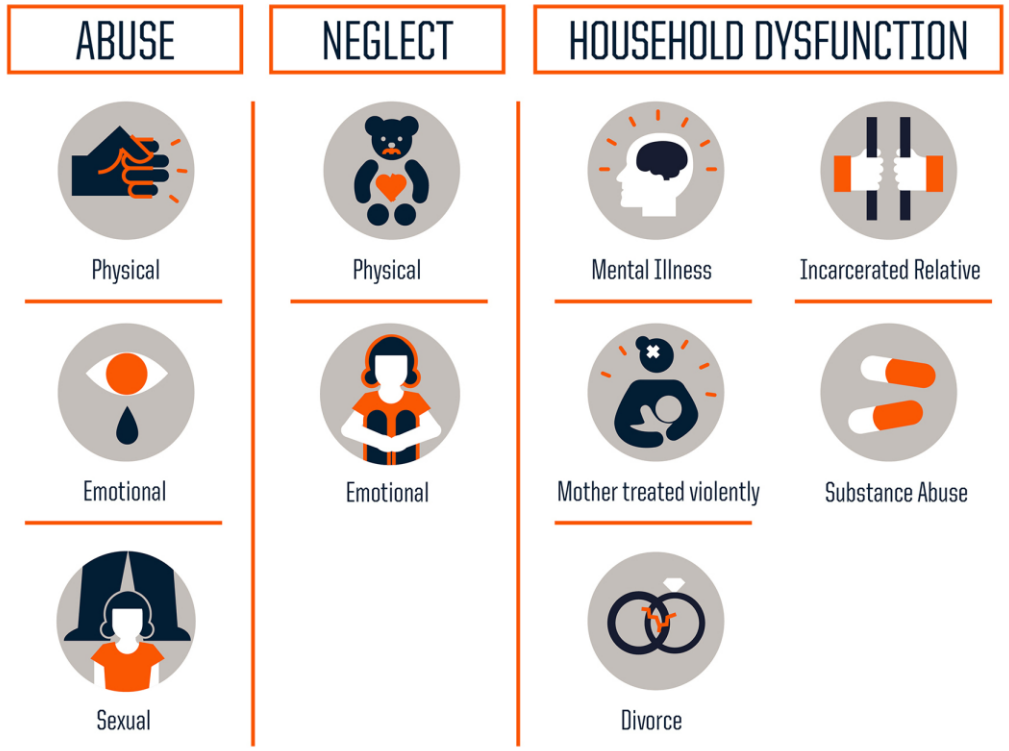
SAY THIS	NOT THAT
• Person with a substance use disorder	• Addict, junkie, druggie
• Drug use/misuse	• Drug abuse
• Person living in recovery	• Ex-addict, clean
• Person arrested for a drug violation	• Drug offender
• Reoccurence/ set back	• Relapse
• Maintained recovery	• Stayed clean

Neuroscience of Addiction



SUD Risk Factors: Genetics + ACEs* + Early Use

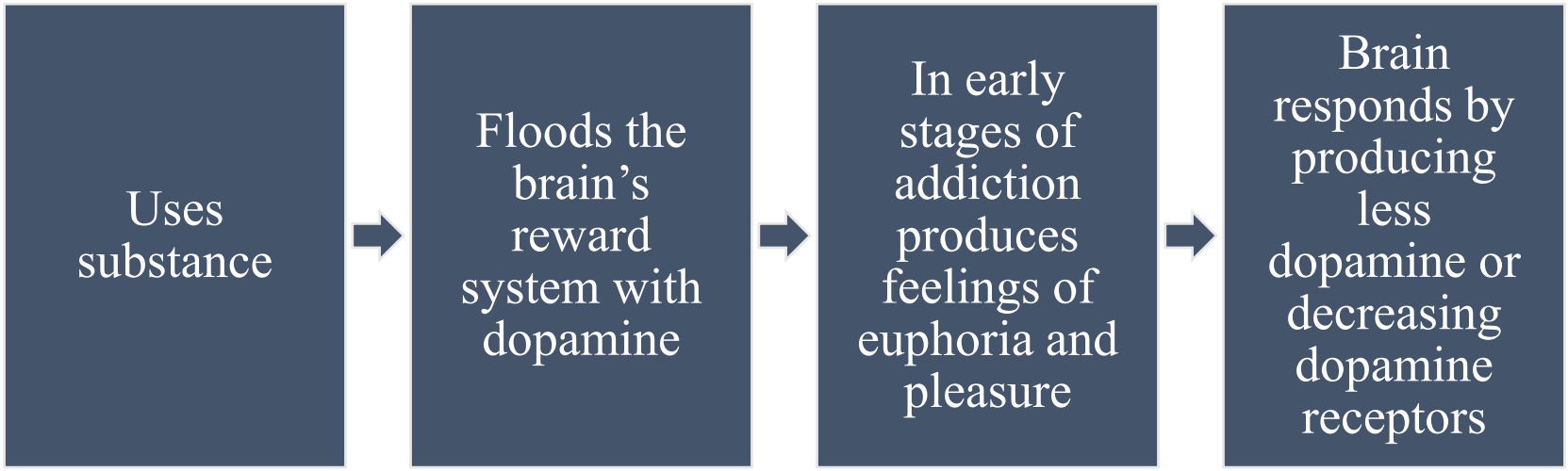






*ACES = Adverse Childhood Experiences

Neurobiological Effects of Addictive Substances



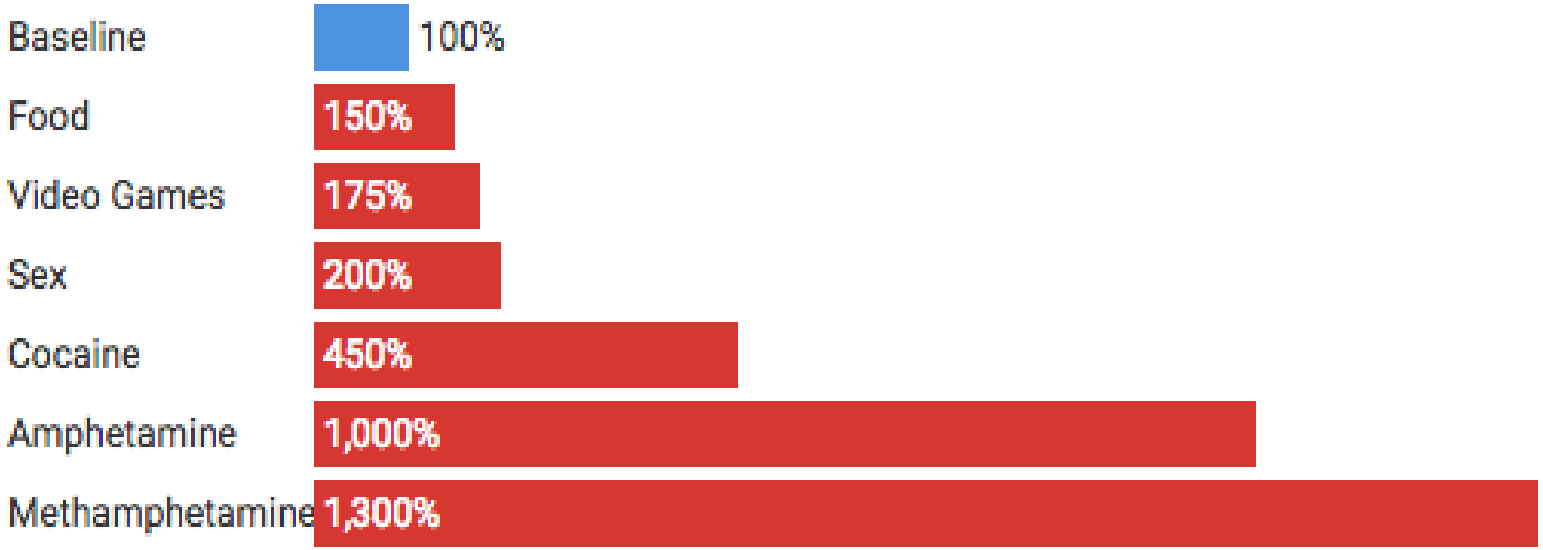
Why SUDs Impacts functioning: Neurobiology

- Disruption of the brain's reward circuit produces powerful cravings and a blunting of pleasure in other areas of one's life
- Use of the addictive substance is experienced as more satisfying than other experiences typically perceived as pleasure-inducing
- Suppresses the benefits of traditional rewards, e.g., caregiving rewards, work-related rewards

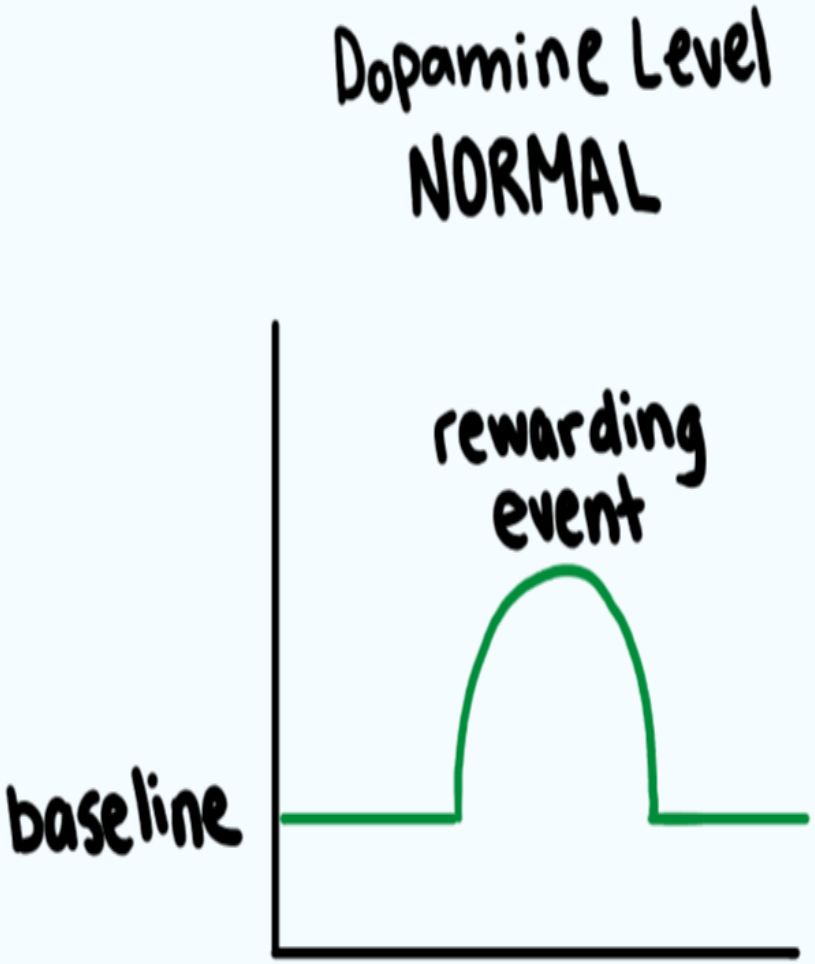


How much dopamine does an activity release?

Various activities cause the brain to release more dopamine than usual. Enjoying food brings a 50 percent boost to dopamine levels in the brain, for instance. Video games and sex also increase dopamine, and drug use does so significantly. It's not reasonable to equate the brain response to drug use with that of video games.



Source: National Institute on Drug Abuse



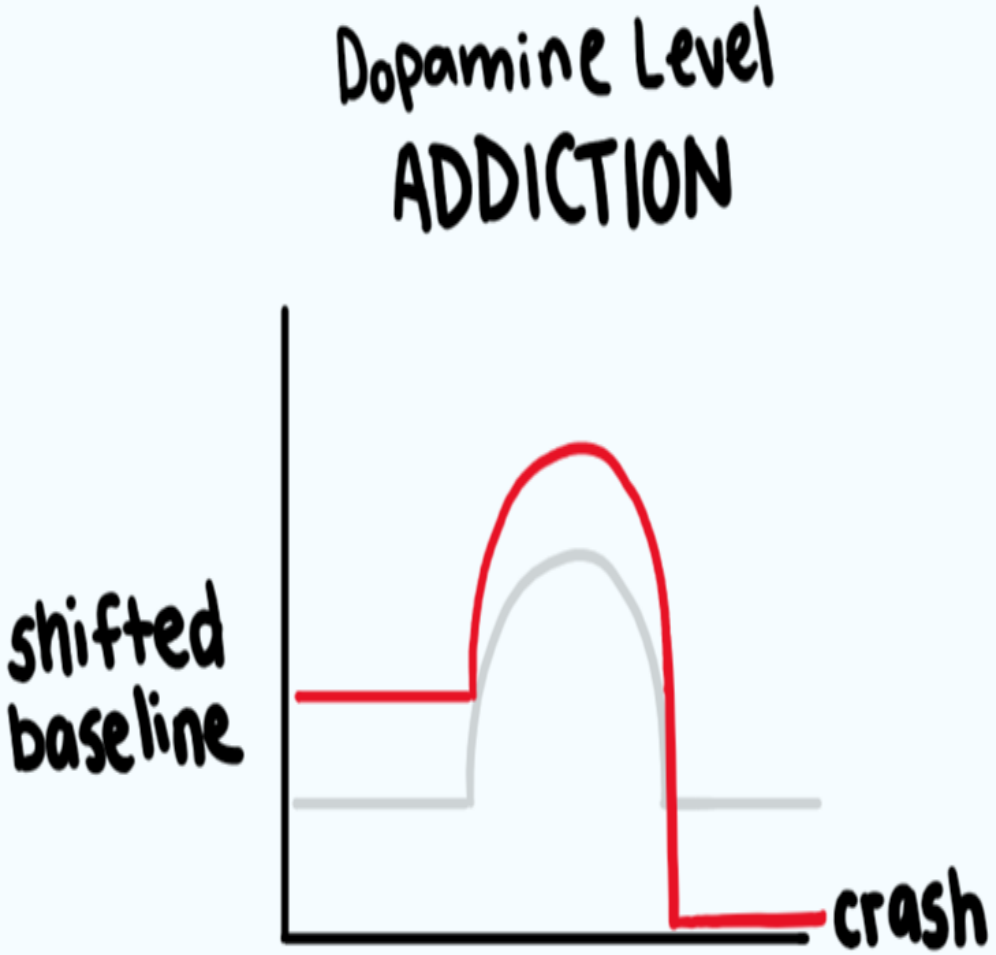
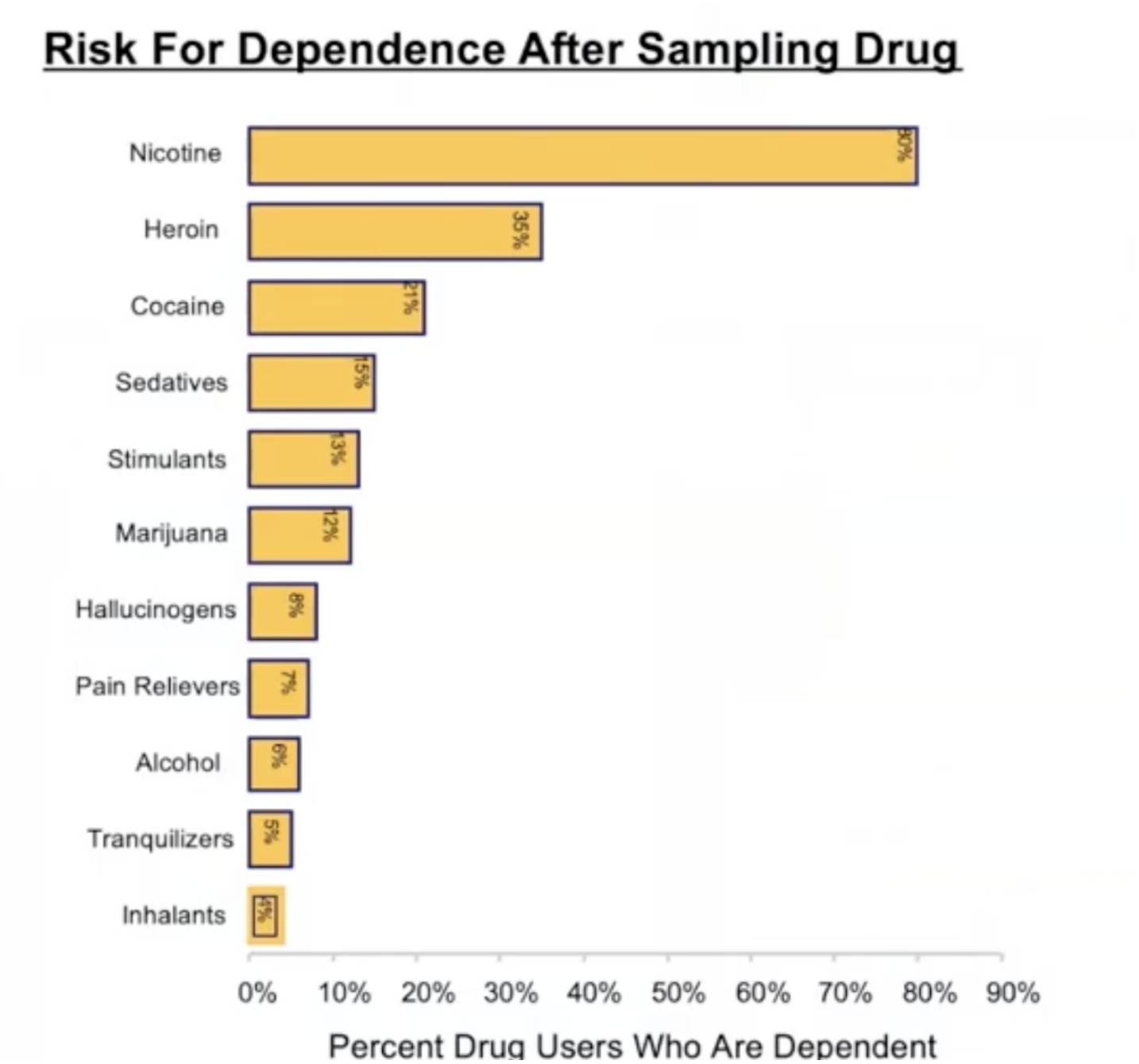


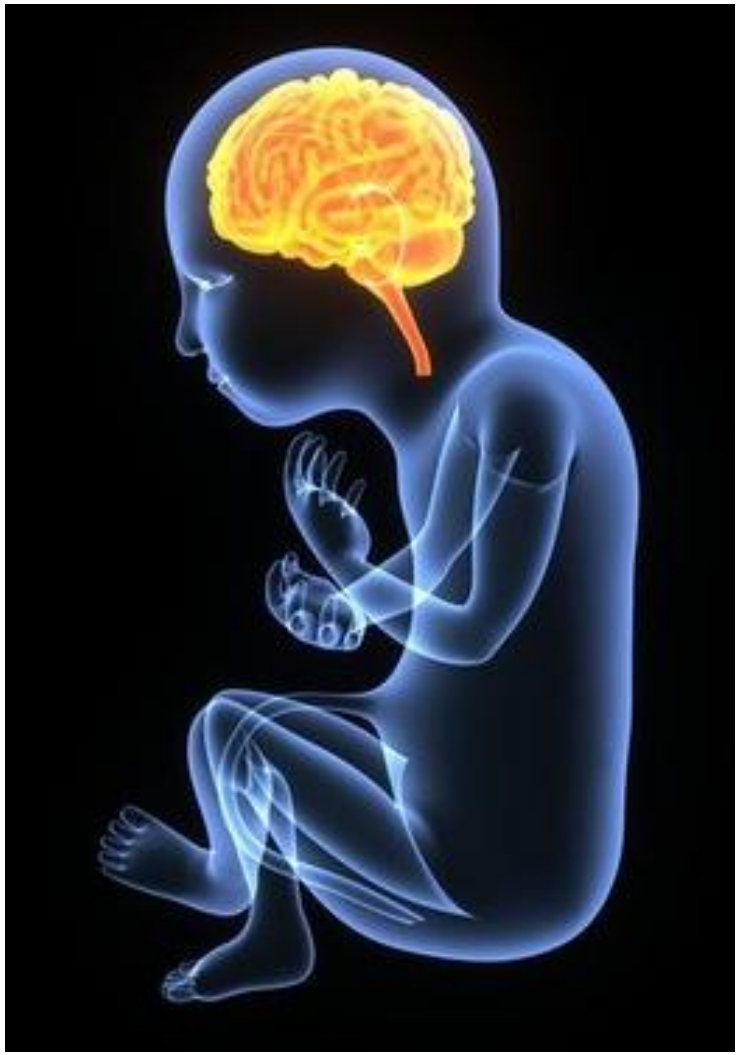
Image: http://www.mypasskit.com/blog/2020/5/26/a-reflection-on-adhd-and-video-game-addiction-risk

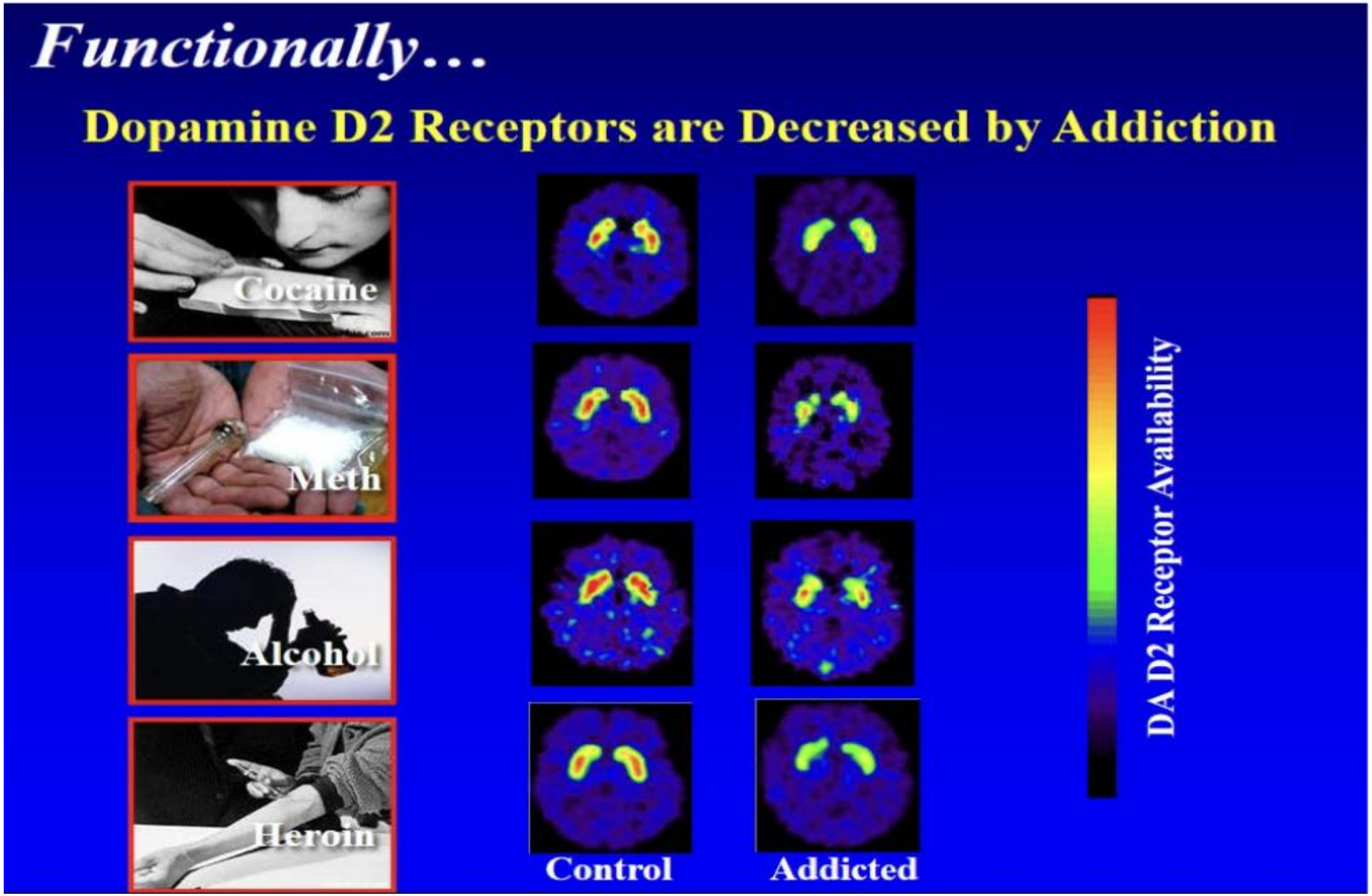


Source: Dr. Yasmin Hurd, 2021

Also…

Fetal brain scans of those who go on to have a substance use disorder, also reflect low dopamine D2 receptors in the striatum.



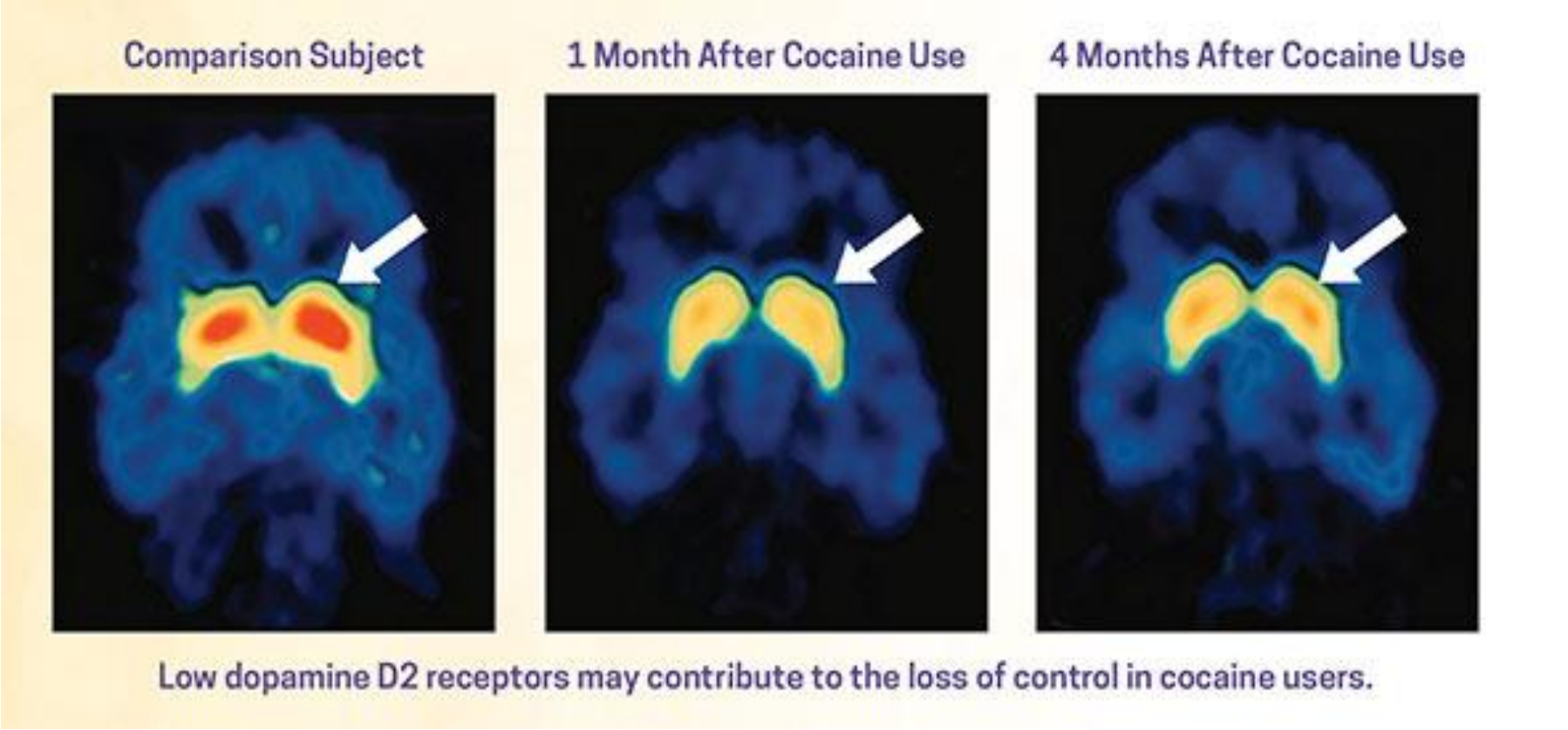


Source: National Institute on Drug Abuse



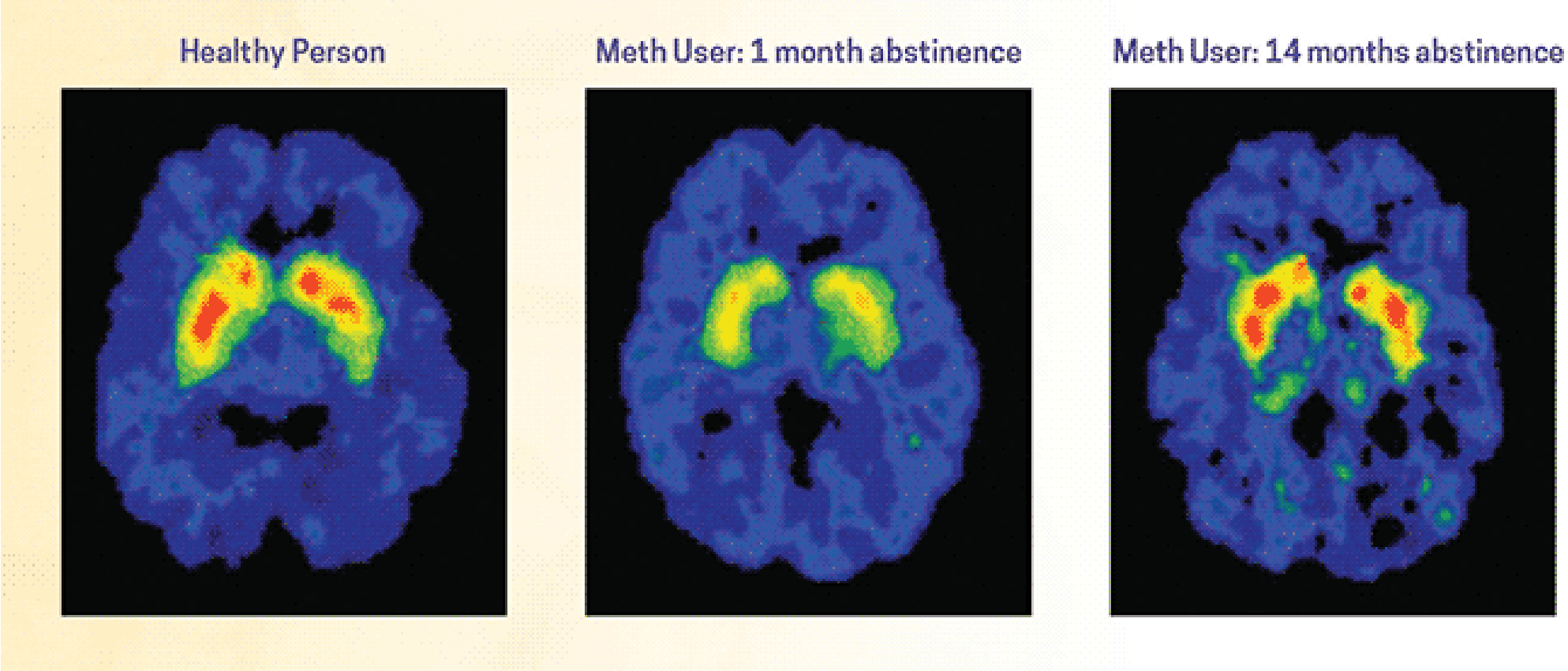
Most individuals with a substance use disorder get better and reach prolonged recovery

Recovery



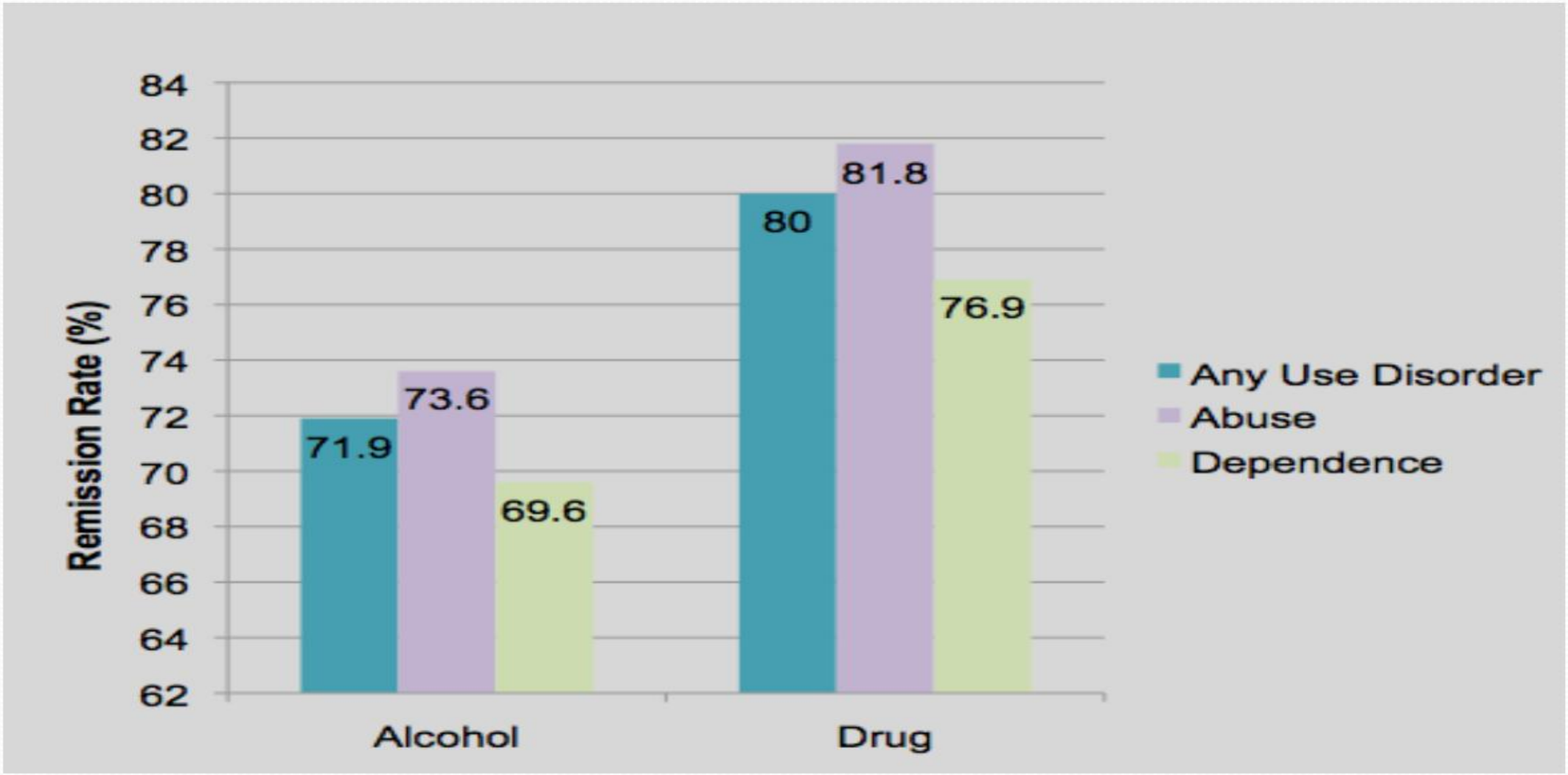
Source: Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health

Recovery



Source: The Journal of Neuroscience, 21(23):9414-9418. 2001

Rates of Recovery



Estimated Remission Rate in US Population (W. L. White, 2012

Shifting Tides: Recovery ≠ Sobriety

"Based on the available literature, **the authors question the validity of any definitions of recovery that rely solely on abstinence from alcohol or the absence of AUD symptoms and fail to consider changes in other outcomes related to improved functioning and purpose in life**. Abstinence will be important for some individuals to start the recovery process and will likely contribute to the abatement of many AUD symptoms, both of which may be important for some individuals in the recovery process. But this is not universal, and limiting definitions of recovery to the elimination of alcohol consumption and AUD symptoms fails to capture the multidimensional and heterogeneous pathways to recovery that are evident in general population samples, as well as among patients who receive alcohol treatment."

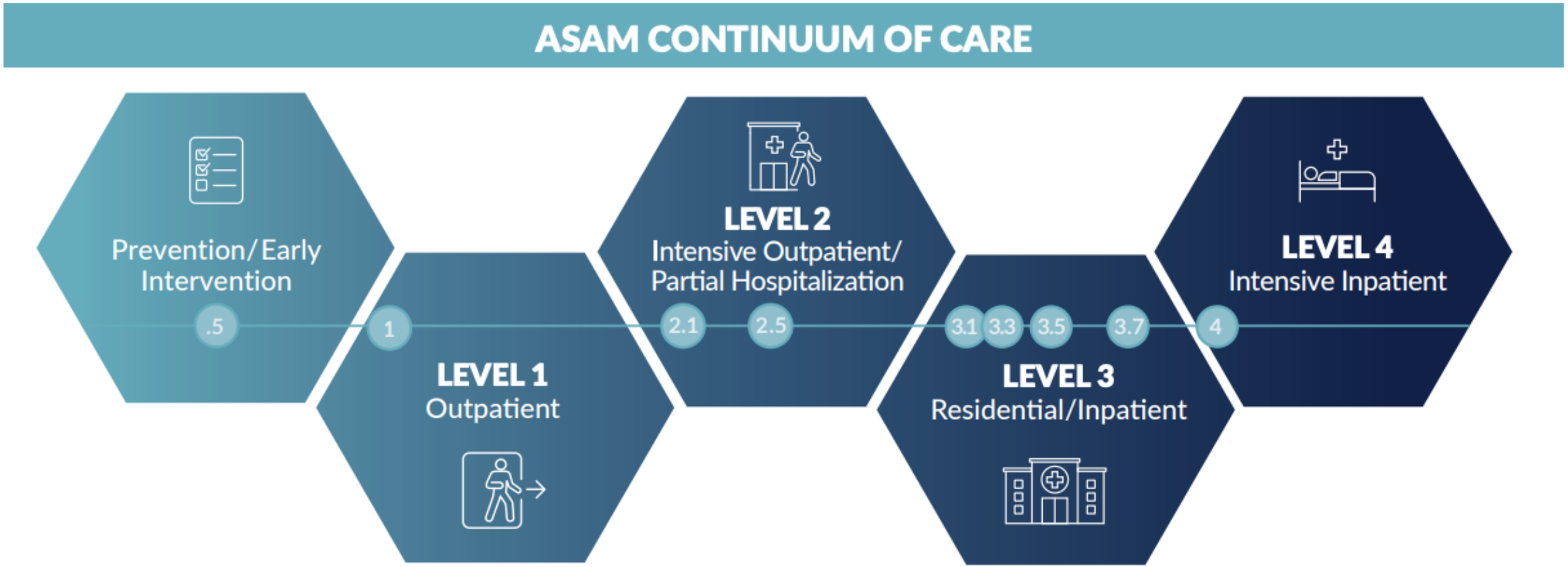
Witkiewitz, K., Montes, K. S., Schwebel, F. J., & Tucker, J. A. (2020). What Is Recovery?. *Alcohol research : current reviews*, *40*(3), 01. https://doi.org/10.35946/arcr.v40.3.01

What does good treatment actually look like?



- 90-day program with integrated treatment for mental health and SUD
- Maybe scheduled drug/alcohol testing (if feasible)
- Support if return to use
- Individual therapy
- Peer support groups – let the individual decide what is helpful to them; it's not always AA/NA, other options include Smart Recovery, Mindfulness-based groups, etc.
- Treatment immediately available – motivation waxes and wanes
- Medication assisted treatment

Adult Treatment System by ASAM Level of Care



.5 Early Intervention
1 Outpatient Services
2.1 Intensive Outpatient Services
2.5 Partial Hospitalization Services
3.1 Clinically Managed Low-Intensity Residential Services
3.3 Clinically Managed Population-Specific High-Intensity Residential Services
3.5 Clinically Managed High-Intensity Residential Services
3.7 Medically Monitored Intensive Inpatient Services
4 Medically Managed Intensive Inpatient Services

Medication-Assisted Treatment (MAT)



- MATs are a safe and effective treatment for opioid, alcohol, and nicotine use disorders
- MATs mitigate cravings and reduce withdrawal symptoms
- A shortage of providers, cost, and stigma are significant barrier to treatment

Relapse and MATs



- Opioid use disorder is typically a relapse-filled condition
- Less than 25% of people with OUD who receive abstinence-only counseling will remain in recovery for 2 years
- 40 – 60% of people who receive medication-assisted treatment are still in recovery two years later

Center, L. A. (2015). Confronting an epidemic: The case for eliminating barriers to medication-assisted treatment of heroin and opioid addiction; Connery, H. S. (2015). Medication-assisted treatment of opioid use disorder: review of the evidence and future directions. *Harvard review of psychiatry*, *23*(2), 63-75.

What Works? (OAT: non-opioid agonist therapy)

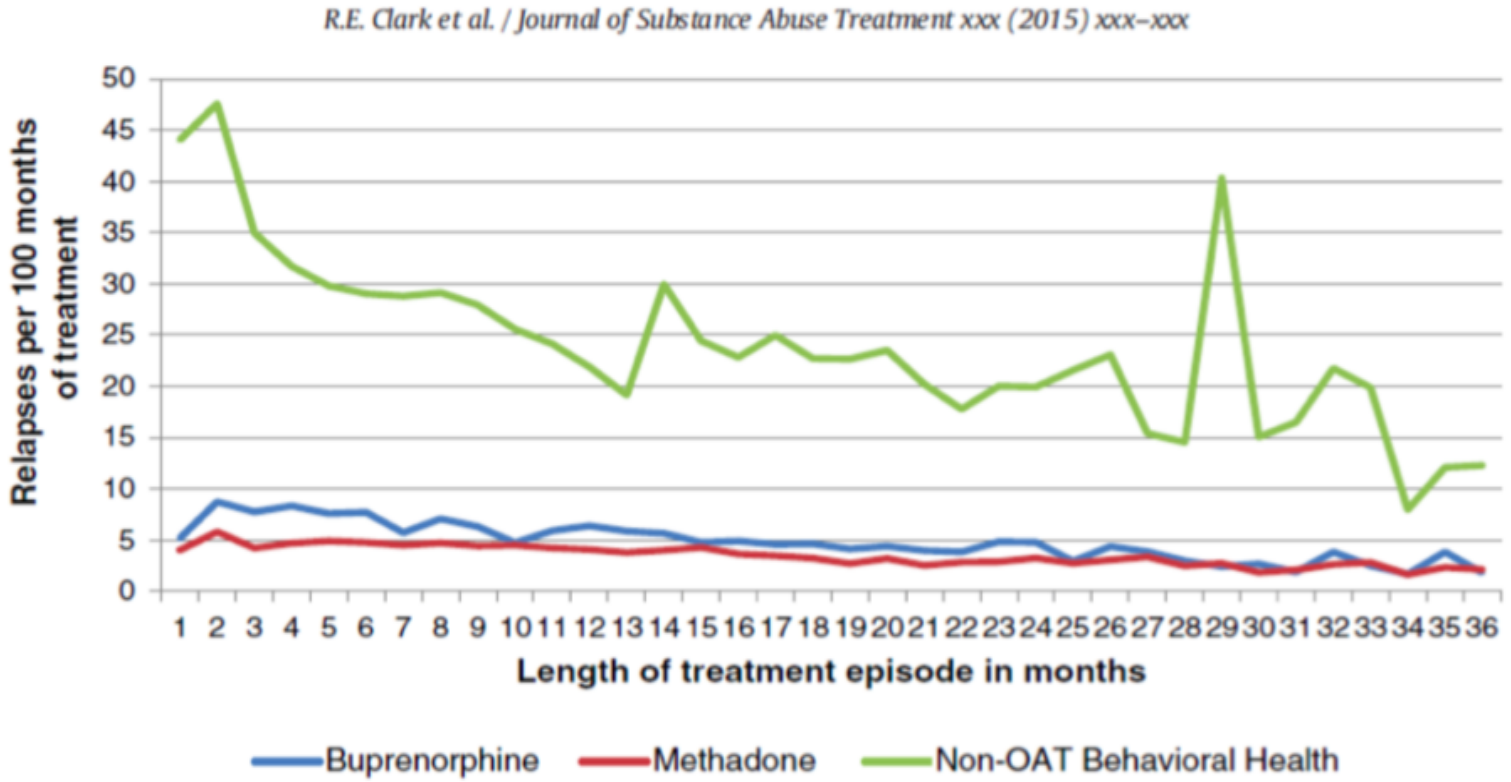
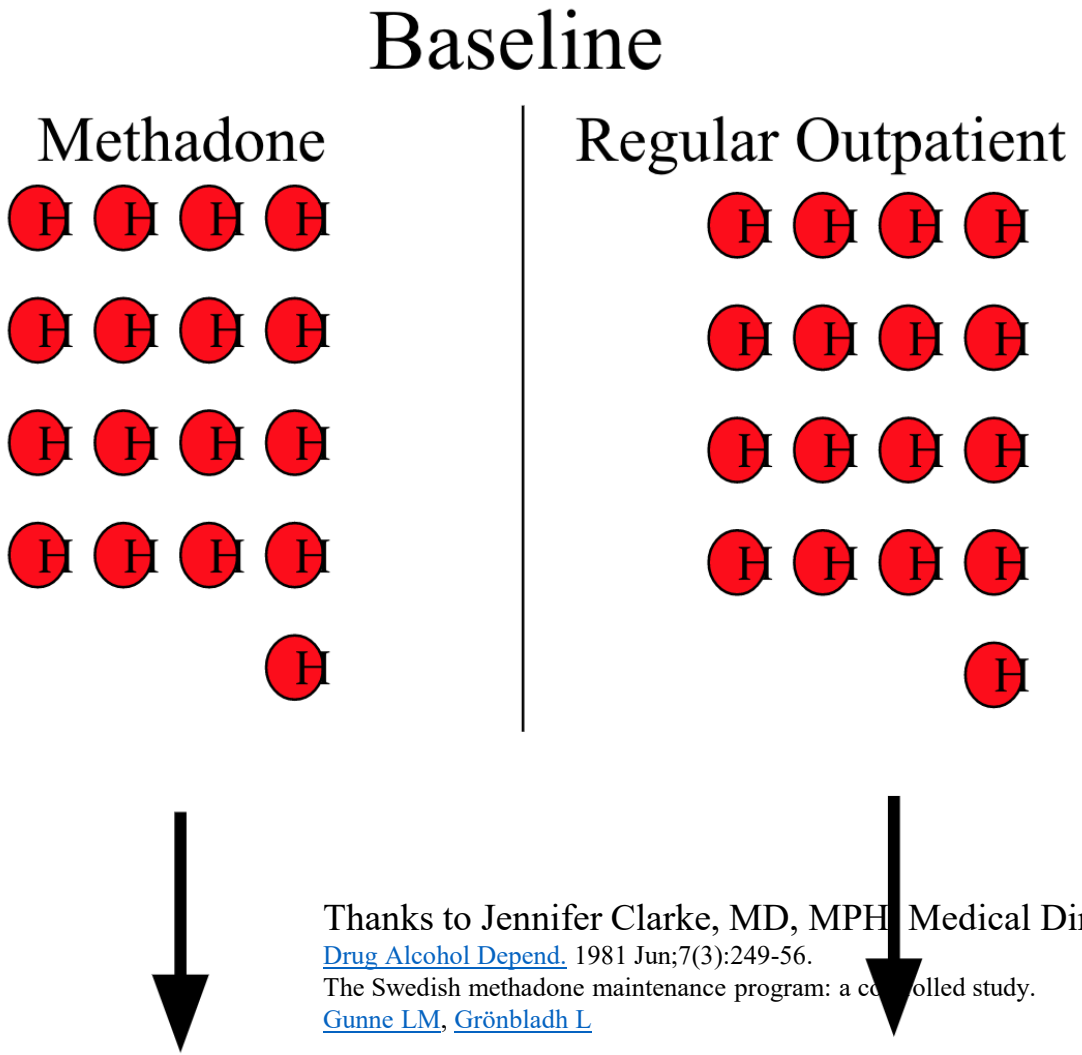


Figure 4. Clark, Robin E., et al. "Risk factors for relapse and higher costs among Medicaid members with opioid dependence or abuse: opioid agonists, comorbidities, and treatment history." Journal of substance abuse treatment 57 (2015): 75-80.

Methadone Effectiveness

Gunne & Gronbladh, 1984

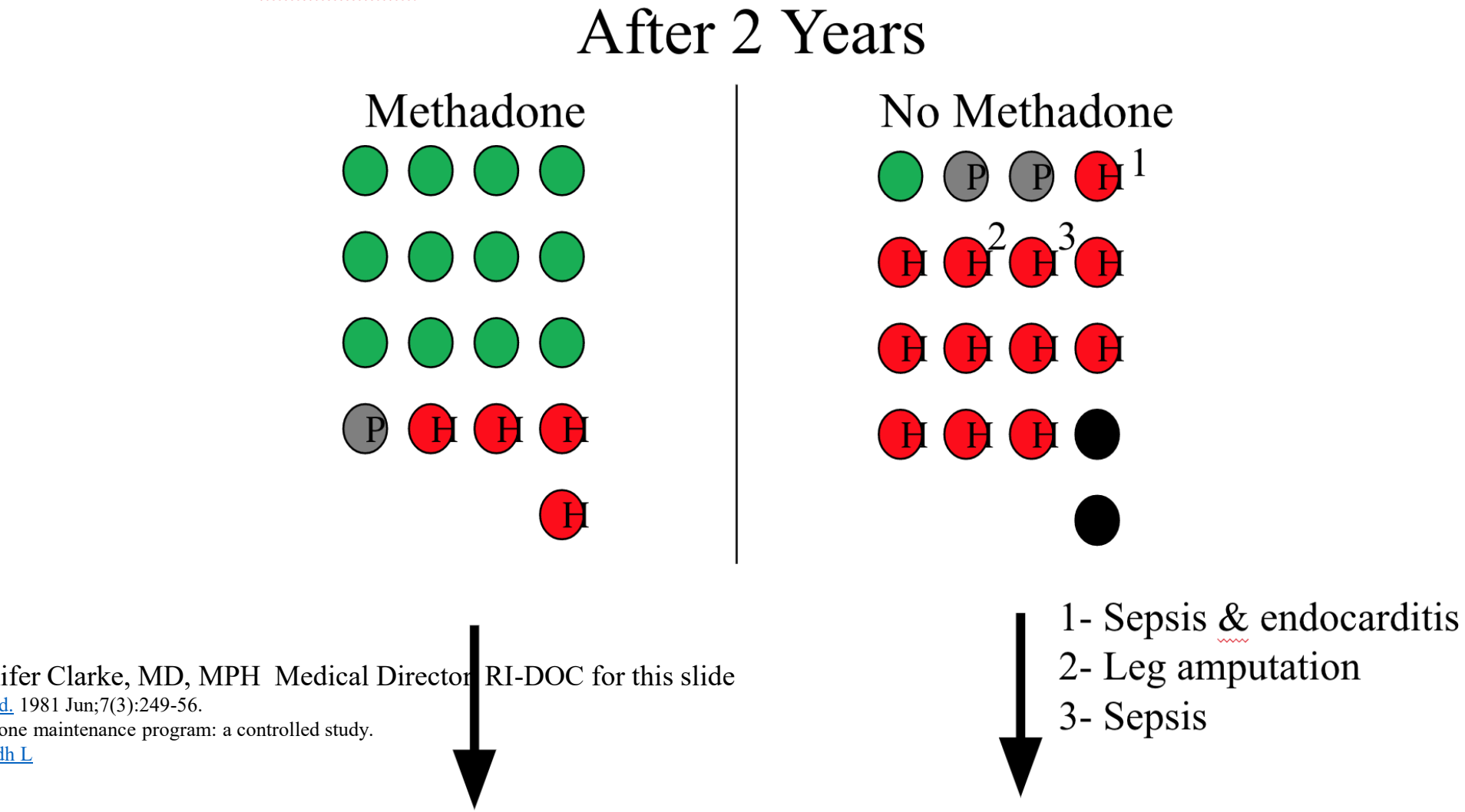


Thanks to Jennifer Clarke, MD, MPH, Medical Director, RI-DOC for this slide

Drug Alcohol Depend. 1981 Jun;7(3):249-56.
The Swedish methadone maintenance program: a co[illegible]olled study.
Gunne LM, Grönbladh L

Methadone Effectiveness

Gunne & Gronbladh, 1984

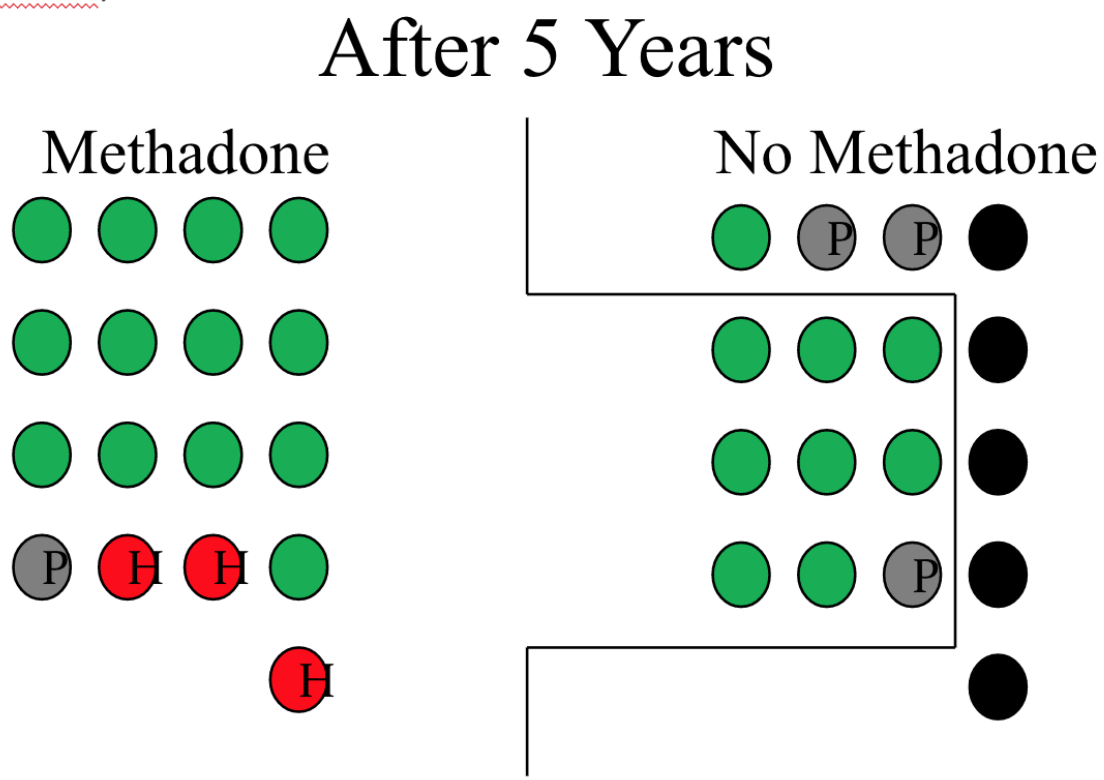


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Drug Alcohol Depend. 1981 Jun;7(3):249-56.
The Swedish methadone maintenance program: a controlled study.
Gunne LM, Grönbladh L

Table 2: Signs/Symptoms of Opioid Withdrawal (Abstinence Syndrome) & Overmedication	
Overmedication Signs and Symptoms	Sedation ("nodding-off," drowsy), miosis (pinpoint pupils), itching/scratching, hypotension, respiratory depression (severe in overdose), depressed mental status, flushing, spasticity. Also, mild euphoria/invigoration (temporary).
Therapeutic Comfort Range	**No withdrawal or overmedication. Ultimately, no craving or illicit opioid use.**
Withdrawal Subjective Symptoms	Drug craving, anxious feelings, depression, dysphoria, irritability, fatigue, insomnia, hot/cold flashes, myalgia/arthralgia (aching muscles/joints), anorexia, nausea, abdominal cramps, restlessness.
Withdrawal Objective Signs	Illicit opioid use, mydriasis (dilated pupils), piloerection ("goose flesh"), diaphoresis (perspiring), muscle tremors/twitching (shaking), diarrhea, vomiting, lacrimation, rhinorrhea, sneezing, yawning, anxiety (outward signs), fever, tachycardia, hypertension.
Sources: Health Canada 2001; Leavitt et al. 2000; Strang 1999.	



Think about Attachment



- Unnecessary changes in caregivers that occur between birth and age 5, the “zone of attachment” are toxic to development
- With each caregiver change, increased risk of disruption to developmental tasks rooted in evolution of the relationship between caregiver and their child.
- Increased risk of poor outcomes: emotional wellbeing, social relationships, cognitive development, school/learning, medical conditions, and internalizing/externalizing behavioral problems
- Even short periods of no-contact can be damaging and disruptive to children.

Source: Pilarz, A. R., & Hill, H. D. (2014). Unstable and multiple child care arrangements and young children's behavior. *Early Childhood Research Quarterly*, *29*(4), 471–483. doi: 10.1016/j.ecresq.2014.05.007
Winston, R., & Chicot, R. (2016). The importance of early bonding on the long-term mental health and resilience of children. *London Journal of Primary Care*, *8*(1), 12–14. doi: 10.1080/17571472.2015.1133012

Use Narratives with Children that mitigates feelings of Abandonment: Explaining SUD to Kids



Dad has an alcohol use disorder. This means he cannot have alcohol or he gets sick. Do you know how Timmy at school cannot have peanuts or he gets sick? Dad can't have alcohol. But sometimes Dad's brain tells him to have alcohol. It's kind of like when you have too much dessert or ice cream and get sick. Dad is getting help and mom and dad love you and are on the same team about supporting Dad while he gets help. Everyone needs help sometimes. You can talk about this with mom, dad, etc. there are no secrets. Do you have questions?

Establish a Nexus

How does the nature of this parent's substance use impact this specific child based on their age, development, and unique needs.



What is the least restrictive parenting access that is safe?



- Unsupervised parenting time with no restrictions
- In public parenting time (library, the park)
- Breathalyzer 1 hour before pickup and at drop off
- Check-in with therapist or reasonable third party the day of visit to clear the parent for the visit
- Reasonable third-party present during parenting time

What is the least restrictive parenting access that is safe?

- Check-in with professional supervisor at beginning of the visit
- Professional supervisor for the first 30 minutes and last 30 minutes of a visit
- Professional supervisor for the duration of the visit
- Video or phone calls
- Video or phone calls that are supervised



What is the least restrictive parenting access that is safe?

- Pre-recorded screened video or audio message
- Letters
- No contact for now (pause)



What is the least invasive testing that is safe?

- No testing
- Initial screening test – urine
- Initial screening test – hair or blood
- Urine test once a month
- Hair test once every 90 days



What is the least invasive testing that is safe?

Breathalyzer test at pickup and drop off

Breathalyzer test at pickup and drop off + during parenting time 8:00 am and 9:00 pm

Breathalyzer test every day at 8:00 am and 9:00 pm

Breathalyzer test at 8:00 am, 1:00 pm, and 9:00 pm



What is the least invasive testing that is safe?

- Once a week urine test, scheduled
- Once a week urine test, random
- Twice a week urine testing
- PEth test (blood test)



What about missed tests?



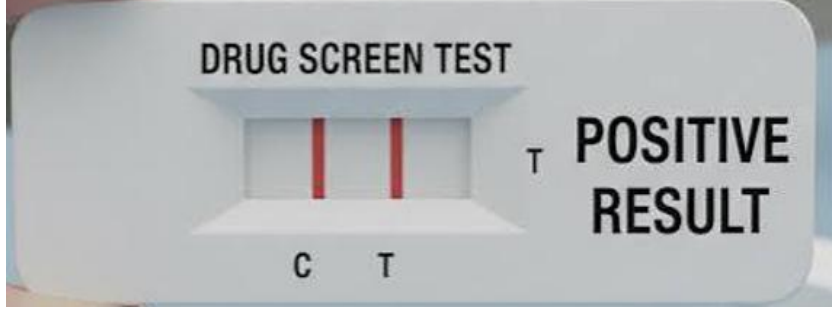


What about missed tests?



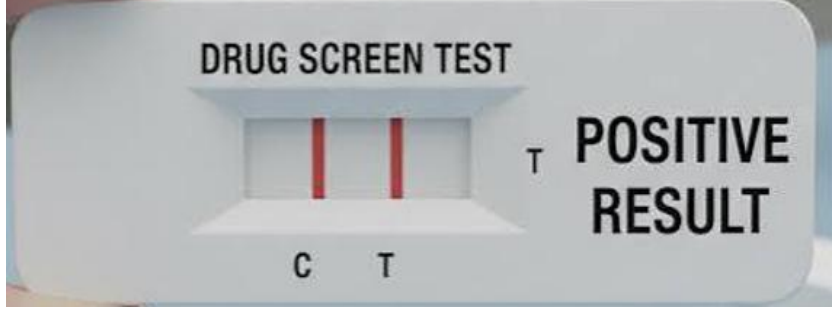
- Missed tests happen (!)
- Expecting 100% compliance is unrealistic and sets people up to fail
- Allow for some missed tests
- For breathalyzer testing, if testing occurs twice a day each week allow for one late or missed test per week.
- Be reasonable – if the person is uncharacteristically a few minutes late with the test, occasionally forgets to test, or can't test due to a work commitment such as a presentation do not treat it as a positive test

What about positive tests?



- First make sure it's not just a screening test
    - do you have a *second* test that confirms the positive?
- If parent tests positive fewer than 3 times per year, when there is a positive test that does not have a negative impact on the child (nexus) – options following each positive test:
    - For one week in-public parenting time
    - Reasonable third-party present for two weeks
    - Temporary increase in testing for 2 weeks to 30 days

What about positive tests?



- If the parent is breath testing positive during parenting time add a test the night before at 9:00 pm for 60 days
- If the parent tests positive again within the 60 days increase breath testing to non-parenting days 8:00 am and 9:00 pm
- If the parent continues to test positive in a 60 day window get a treatment consult to see if they need a higher level of care
- In-public parenting time or third-party present



Supervised Parenting Time

Supervision



- Suspensions of parenting time can be harmful to children.
- Supervision is a good option of the parent is able to reliably show up to visits most of the time
- What is the least restrictive parenting access that is safe? Do you even need supervision?

Supervision



- Before starting supervision (on ramp) be clear with the parent what the specific requirements are to decrease supervision and end supervision (off ramp). Include short-term incentives when possible.

- For example, for 30 days:
  - Arrive 15 minutes before the visit start time
  - Is prepared with appropriate items for the child
  - Written visit recap within 24 hours of the visit
  - Breathalyzing 30 minutes before and after the visit
  - Negative breathalyzer tests
  - Positive or neutral reports from the supervisor
  - Incentive: After 2 weeks of compliance and no issues visit duration increases by 30 minutes

Supervision – Plan B



- There should always be a plan B and the steps for implementing plan B should be clear to everyone
- This plan can be implemented if the parent returns to use, arrives at the visit under the influence of a substance, or the parent cancels the visit

Missed Visit Protocol



• Ask the parent with SUD to provide three videos for the child saying hello to the child, explaining that they cannot make the visit, and e.g., reading a story

• Have the SUD parent collect books or items to give

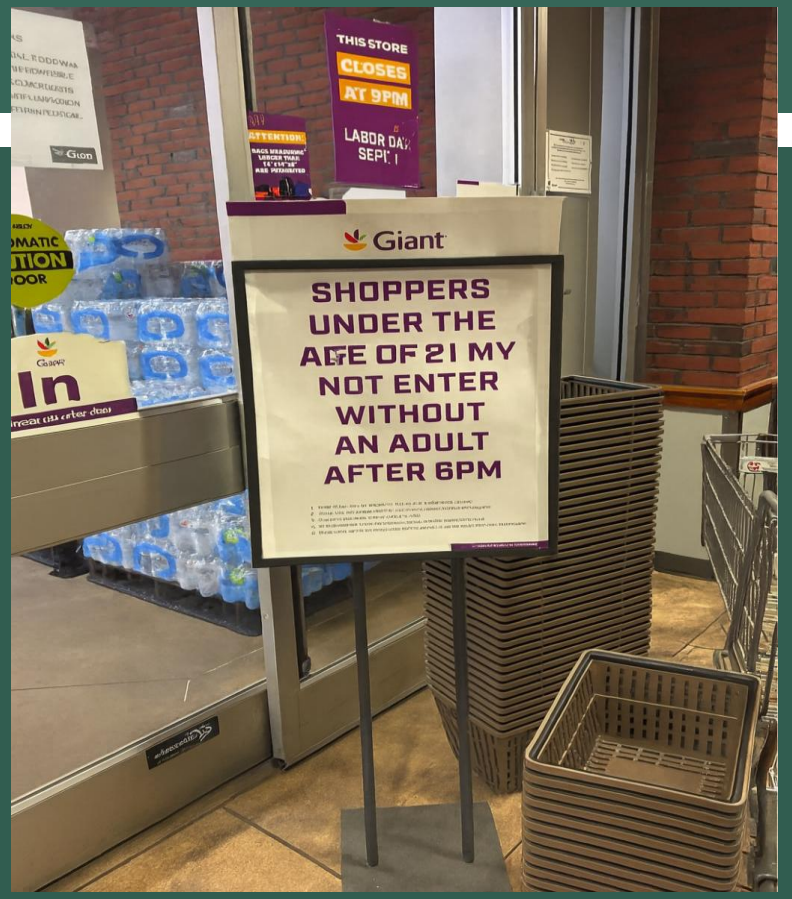
the child in case the visit does not happen. The current caregiver can keep this on hand.

• This way, the child still has a “touch point” to their

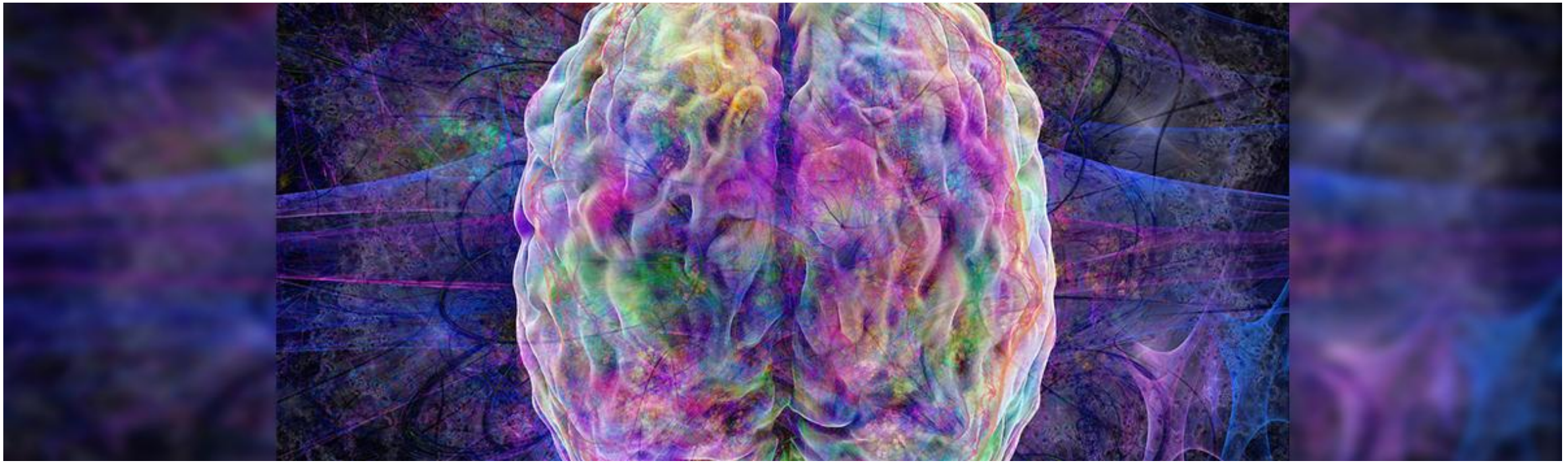
parent and does not feel like their parent failed them or abandoned them.

Emerging Trends in Emerging Adults: Adolescent Brain Development and the Law





Compared to Adults, Adolescents…

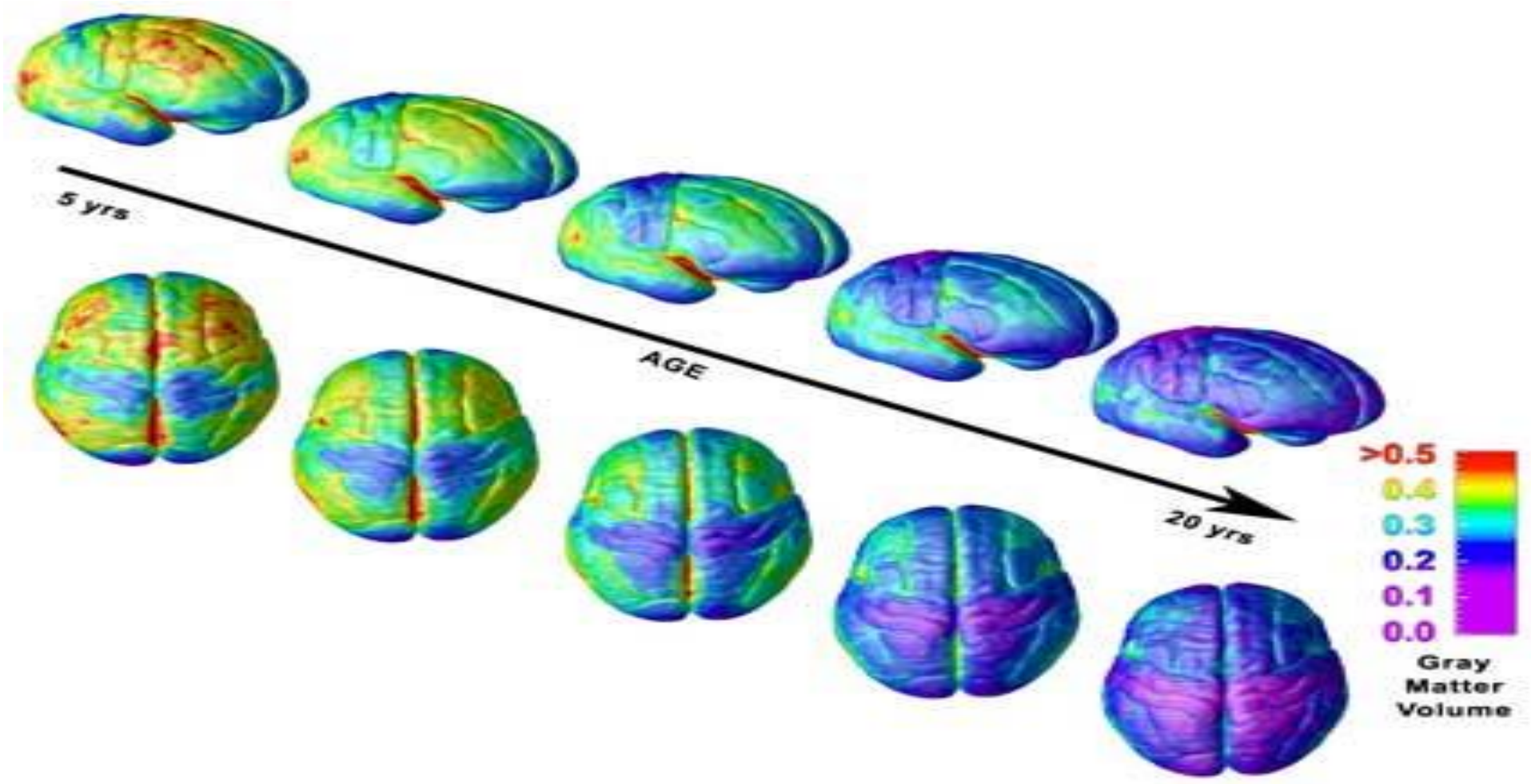


TLDR

Adolescent and late adolescent brains are different from adult brains



Changes in Grey Matter Volume



White Matter Development

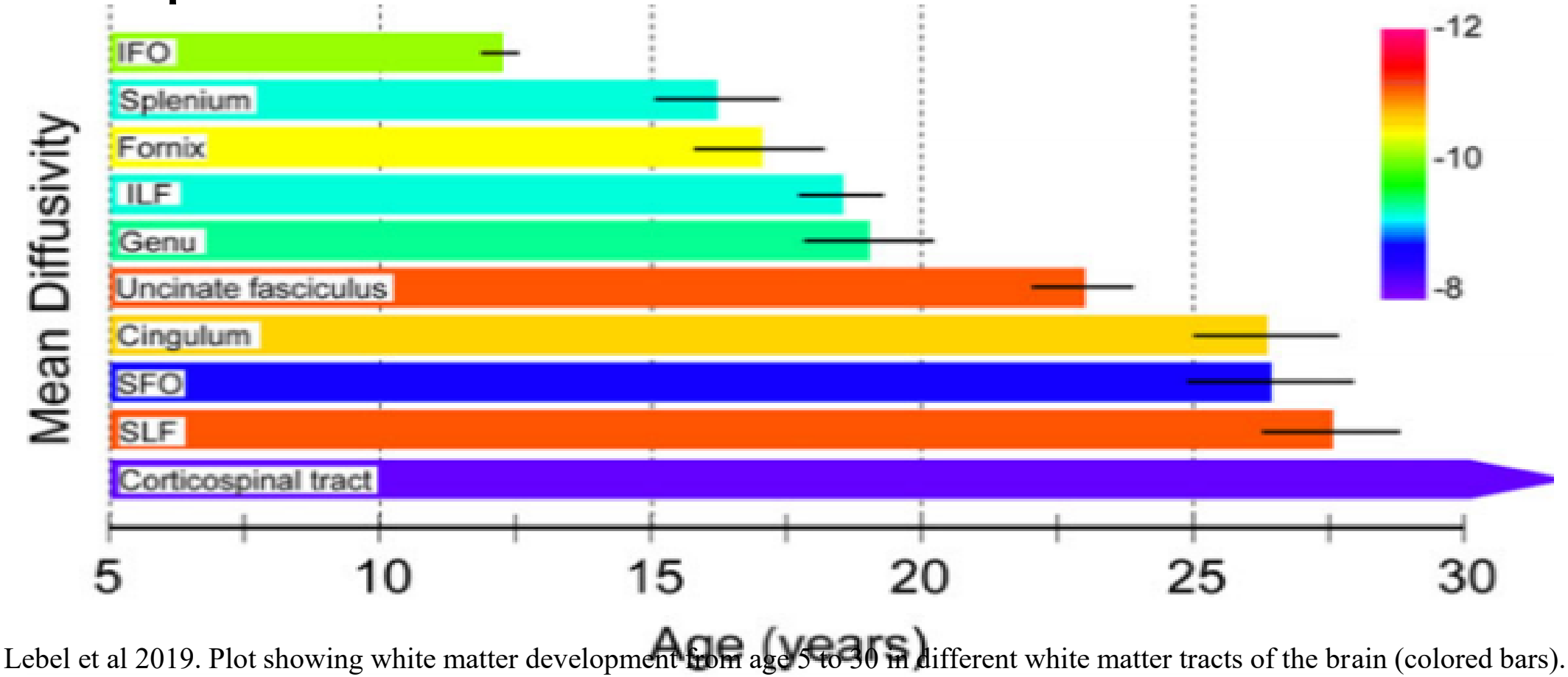


Figure 4: Lebel et al 2019. Plot showing white matter development from age 5 to 30 in different white matter tracts of the brain (colored bars). Decreases in mean diffusivity provide an approximation of strengthening white matter connections. The end of each bar represents the age at which the measure reaches 90% of its developmental plateau. IFO: inferior fronto-occipital fasciculus; ILF: inferior longitudinal fasciculus; SFO: superior fronto-occipital fasciculus; SLF: superior longitudinal fasciculus

Decreases in Cortical Thickness Over Time

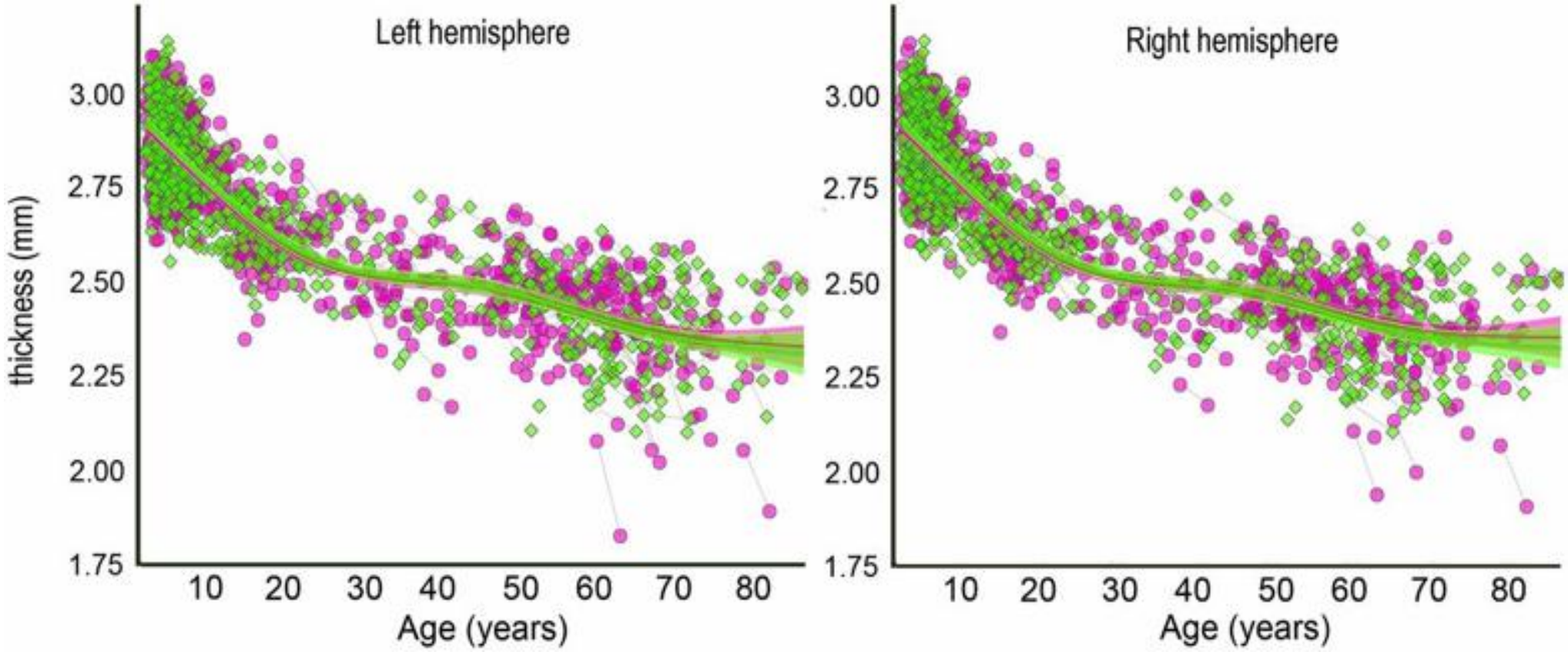
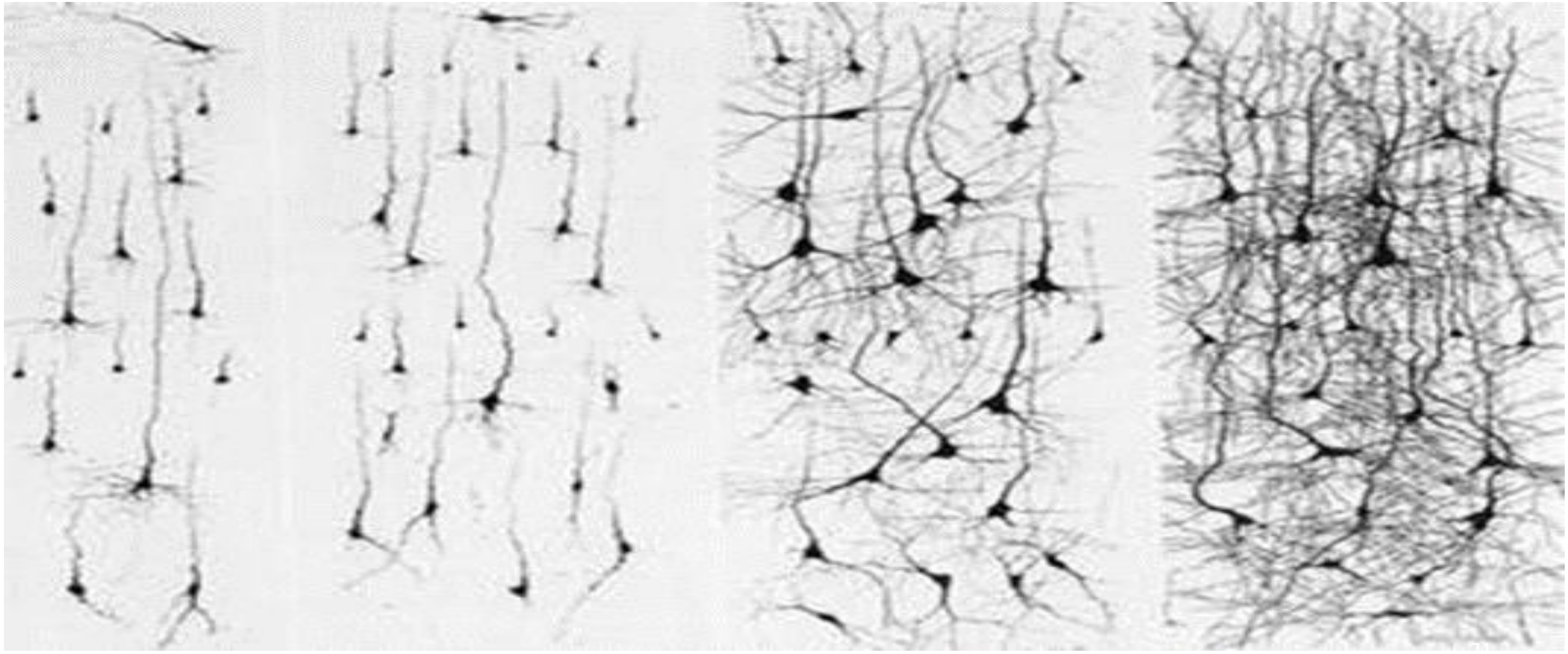


Figure 3: Fjell et al 2015. Global changes in cortical thickness. Longitudinal study testing 974 participants ages 4-89. Green is female, pink is male.

Process of Myelination and Neural Connection

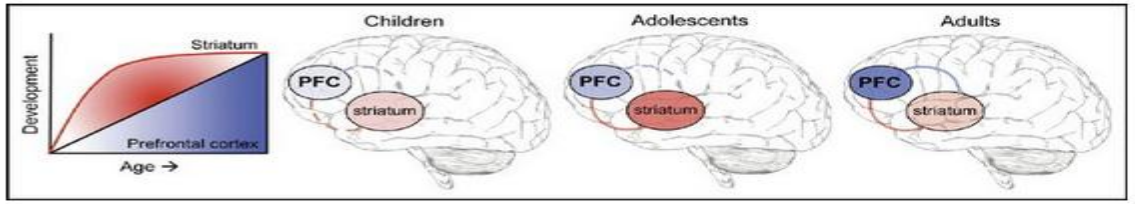


Newborn

3 month old

15 month old

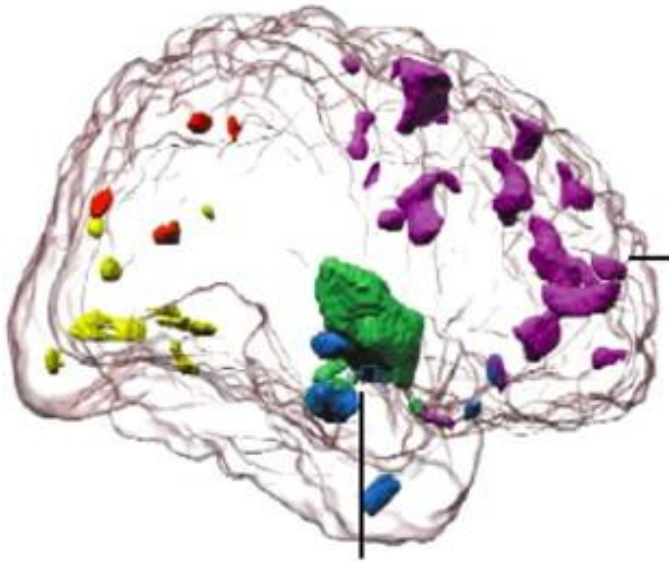
Teen Brain& Rewards / Emotions



Caption

FIGURE 1 Cartoon model of ventral striatal cortex and prefrontal cortex (PFC) interactions across development. Note: Deeper color indicates greater regional signaling. Line represents functional connectivity, with solid line indicating mature connection and dotted line indicating immaturity. Reprinted from Current Opinion in Neurobiology , Vol. 20, Somerville LH, Casey BJ. Developmental neurobiology of cognitive control and motivational systems, 236- 241. Copyright 2010, with permission of Elsevier. 21

- Limbic system (e.g. striatum) overly developed/sensitive
- Prefrontal Cortex less developed
- Rewards/emotions outweigh "regulation" from the Prefrontal Cortex

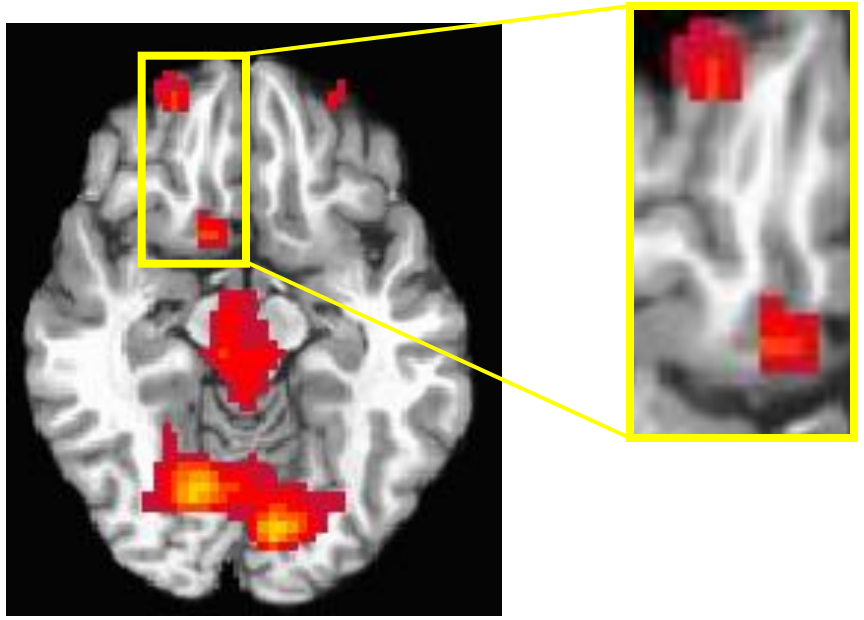


Limbic System

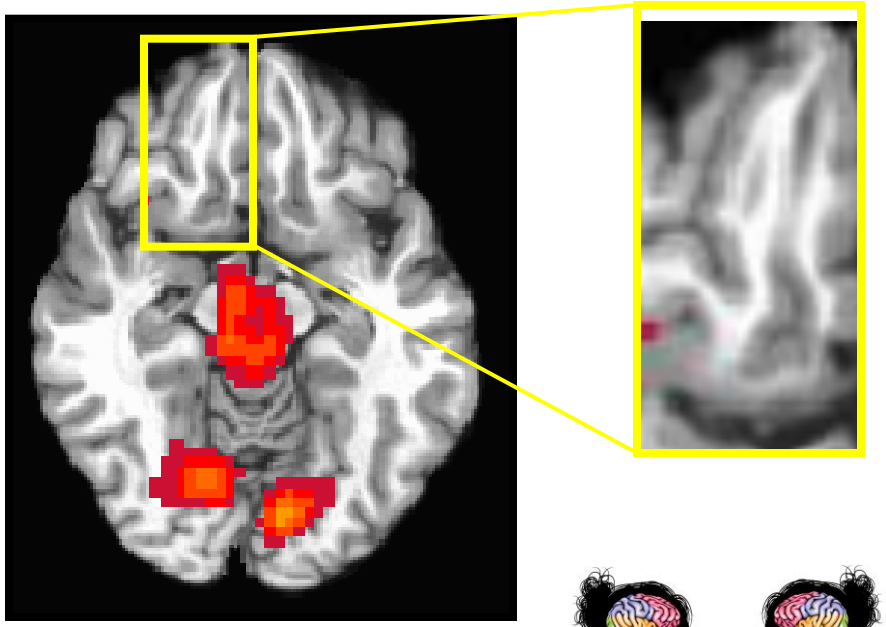
Adolescents are less likely than adults to:

- Identify and/or consider likely future consequences of their actions
- Plan ahead beyond the very short term
- Control impulses or resist peer influences
- Move beyond the immediacy of perceived reward/gain
- Simultaneously consider the risks and rewards of a decision

Friends Watching



Alone





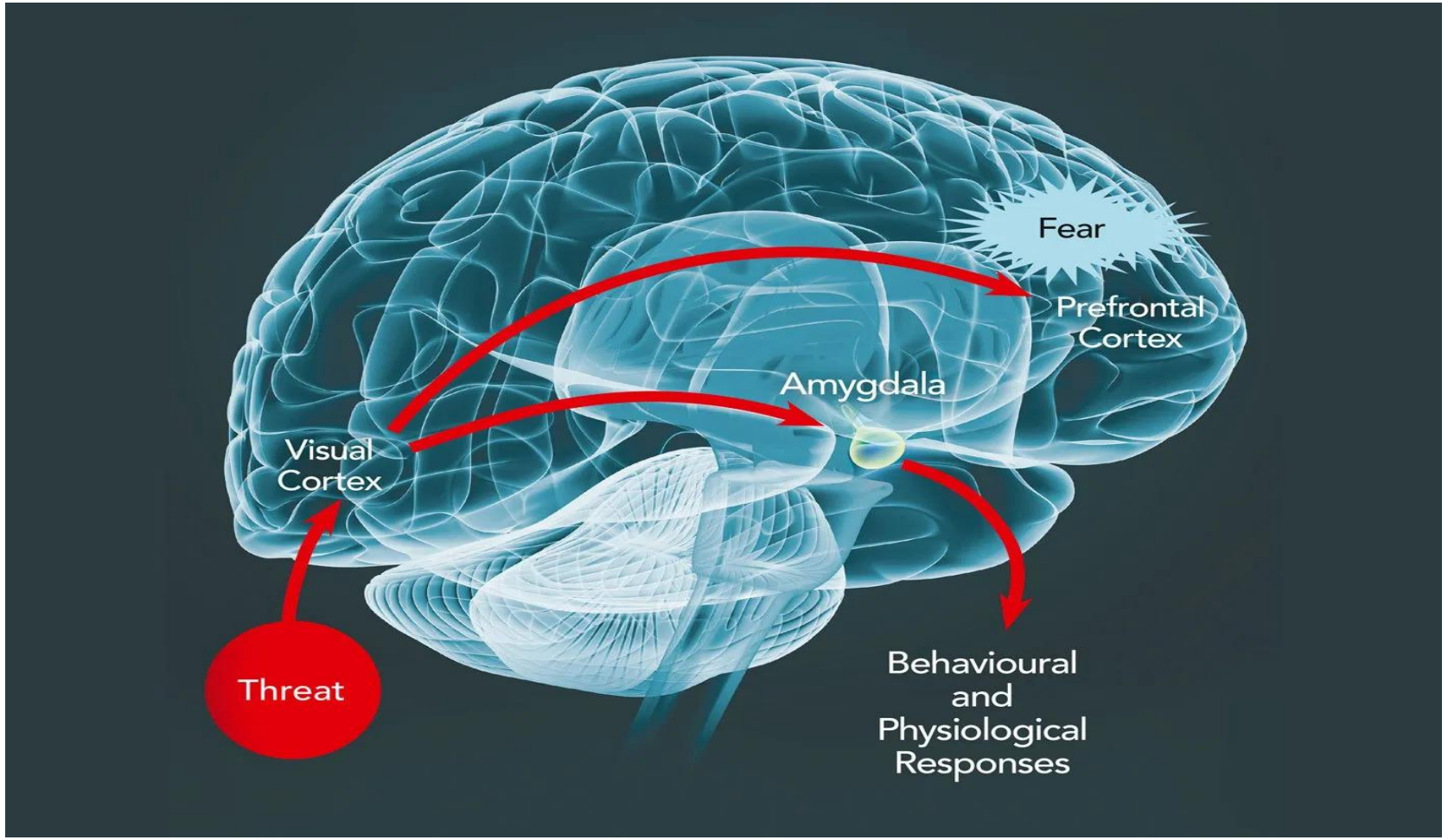
Average change in brain activity among adolescent participants (14-18 years) playing the driving game, either with friends watching, or with no audience.

There is significantly greater activation in reward centers when friends are watching.

No such effect is seen among adults

(Chein et al., 2011)

Threat Response



Executive Functioning in Contexts

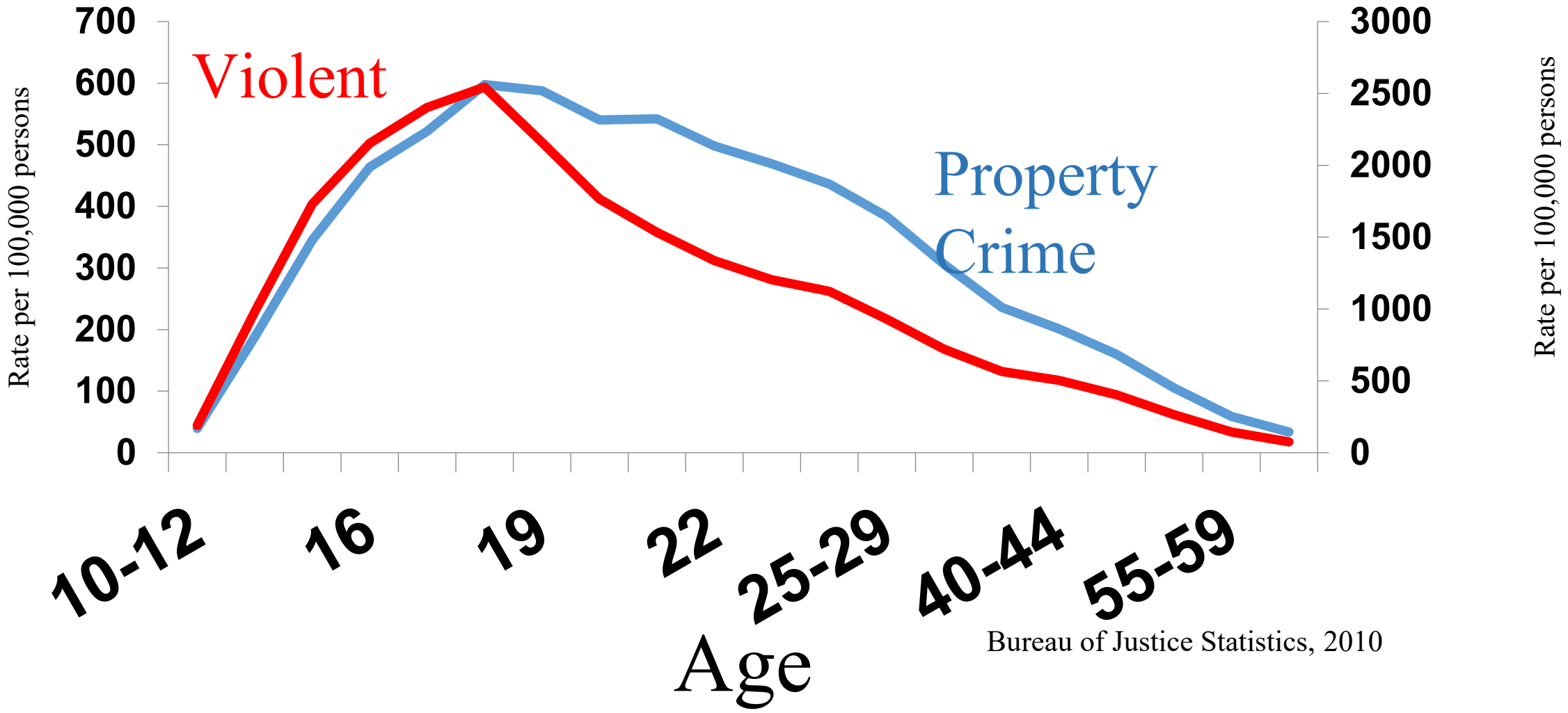


- **<u>Hot Cognition</u>**
  - Under stress, in the heat of the moment, during high emotional arousal (> 180 heartbeats a minute)
  - Emotionally influenced thinking and perception that decision must be made immediately – more susceptible to impulse, risk-taking, influence of others



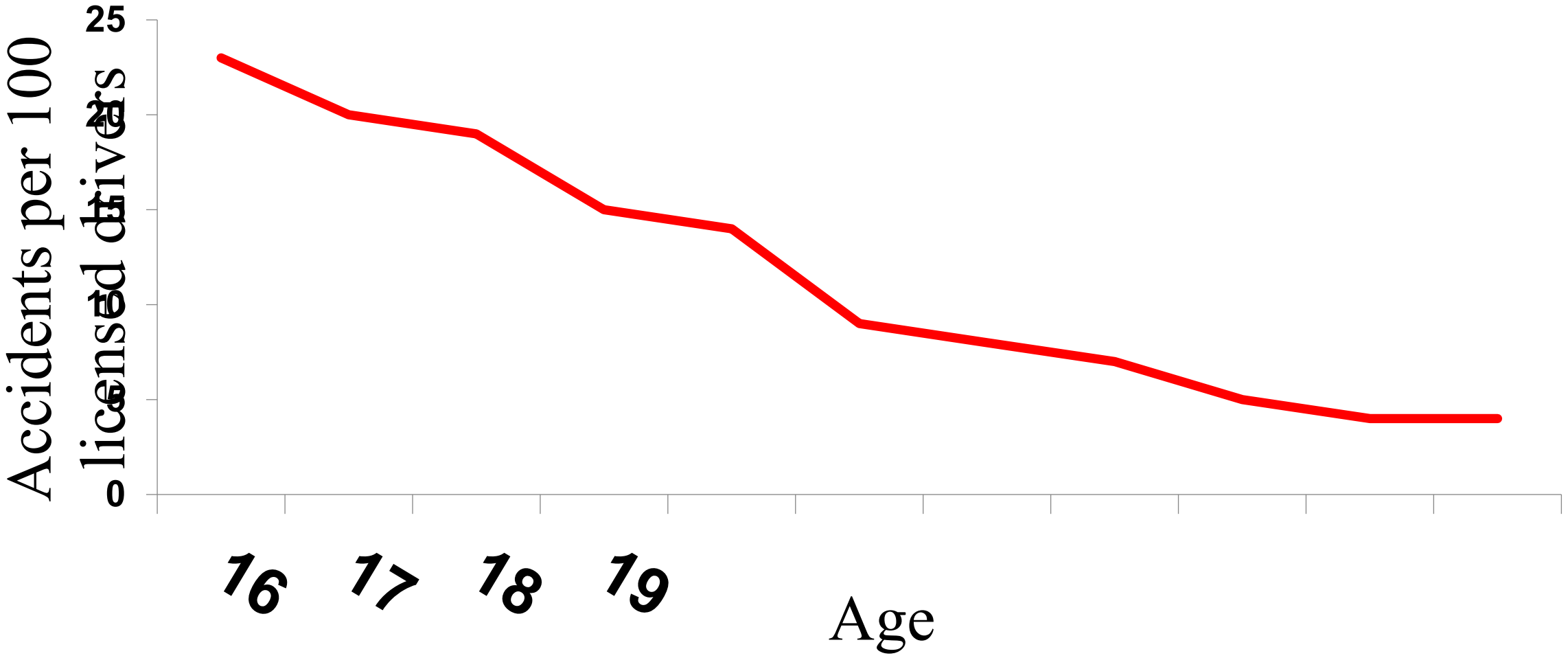
- **<u>Cold Cognition</u>**
  - Calm environment, availability of input/consideration
  - Time and tools to make well-thought-out decisions
  - More logical and reasoned thinking

…commit more crimes



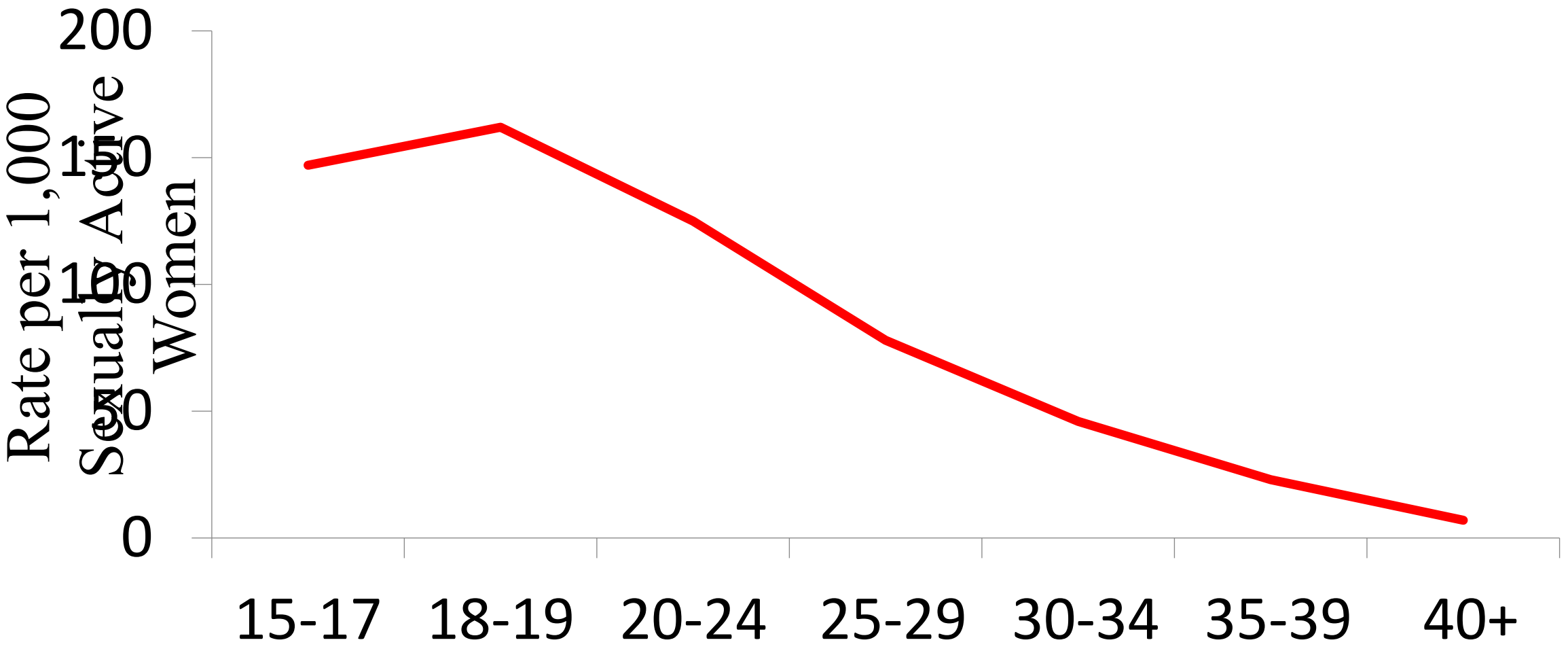
Bureau of Justice Statistics, 2010

… HAVE MORE Automobile Crashes



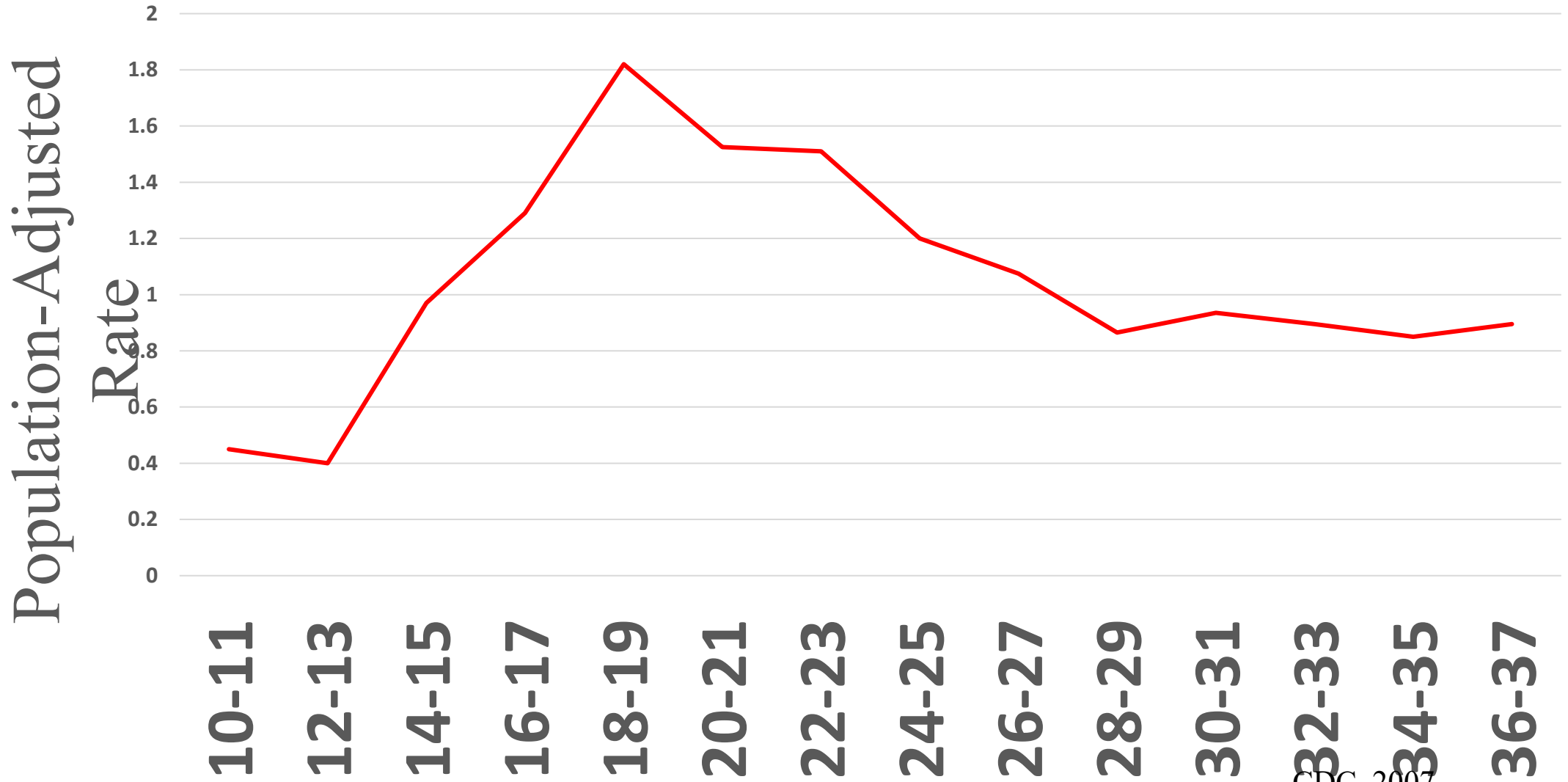
U.S. Census Bureau, 2012

… are more likely to have Unintended Pregnancies



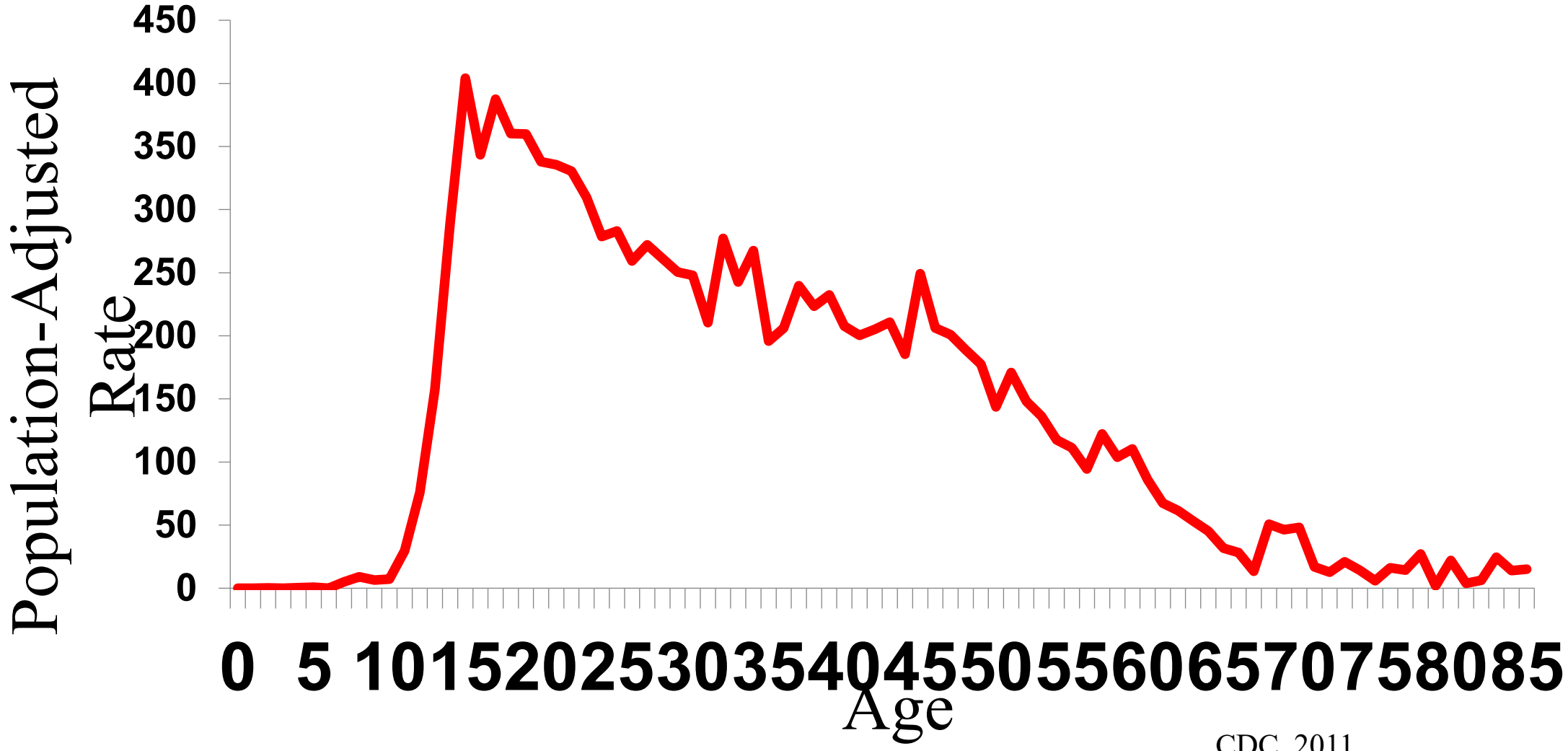
Finer, 2010

… DROWN more often



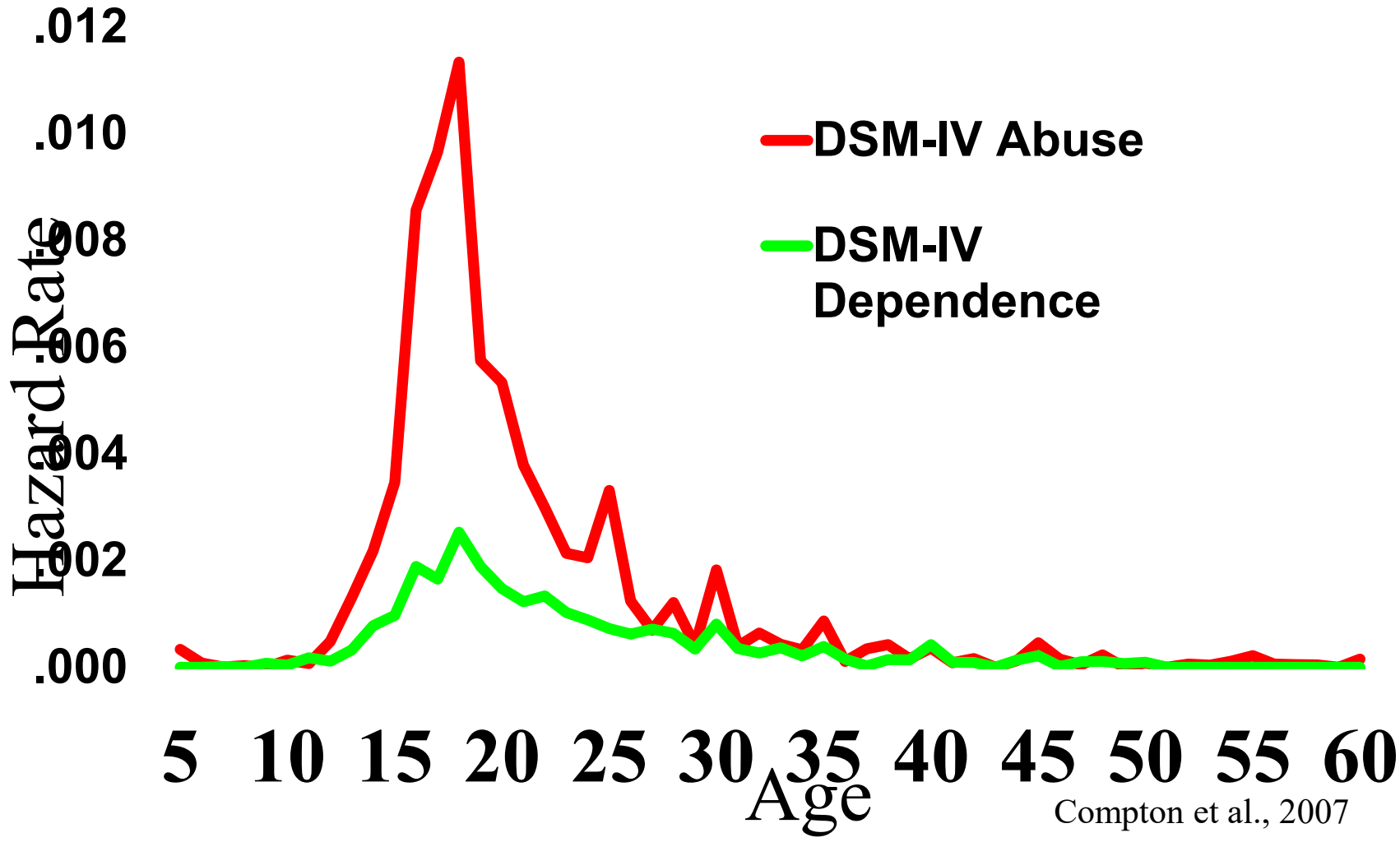
CDC, 2007

… HAVE MORE Non-Fatal Self-Inflicted Injuries



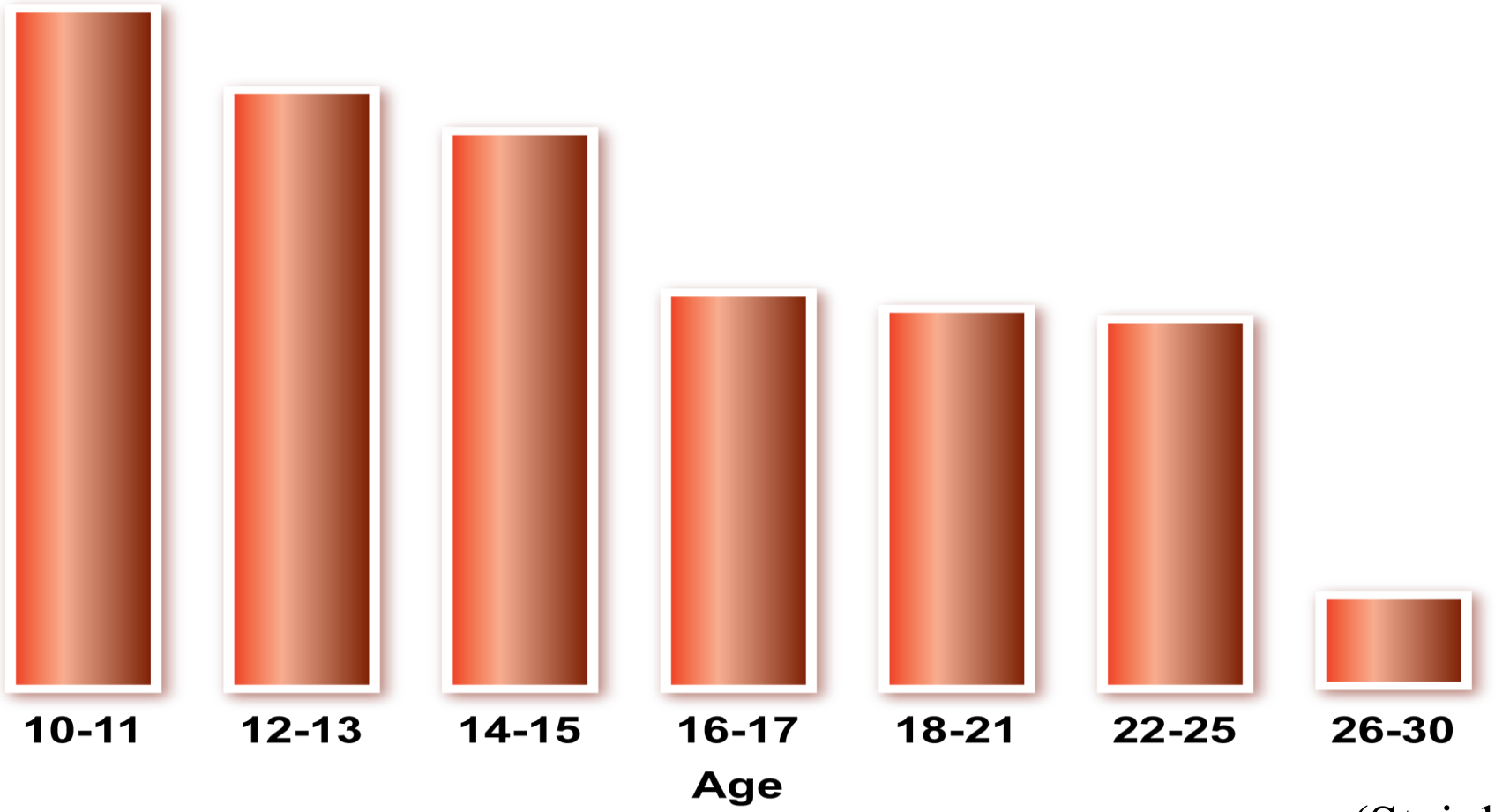
CDC, 2011

…are more likely to begin experimenting with drugs



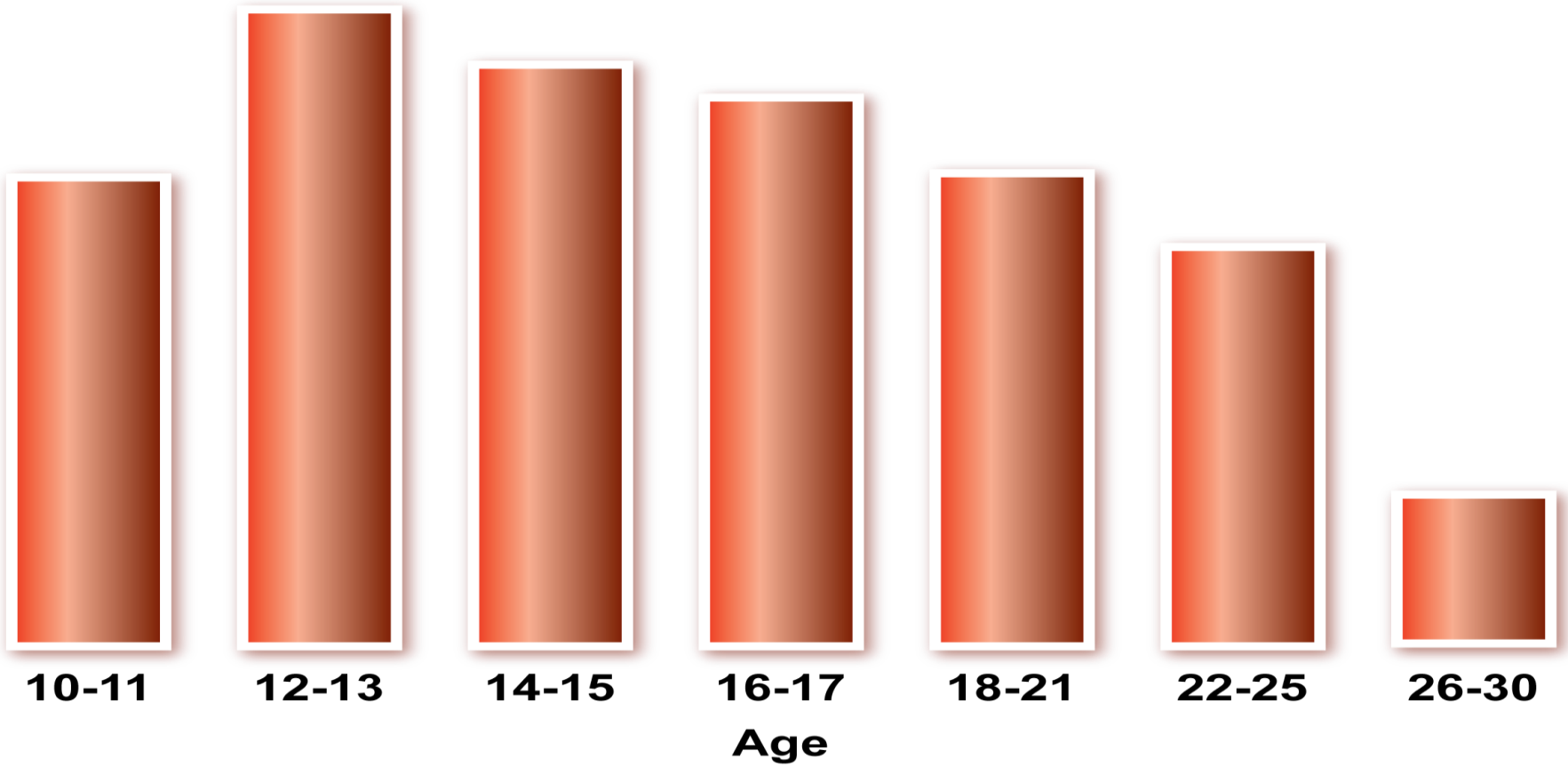
Compton et al., 2007

Impulsivity Declines with Age



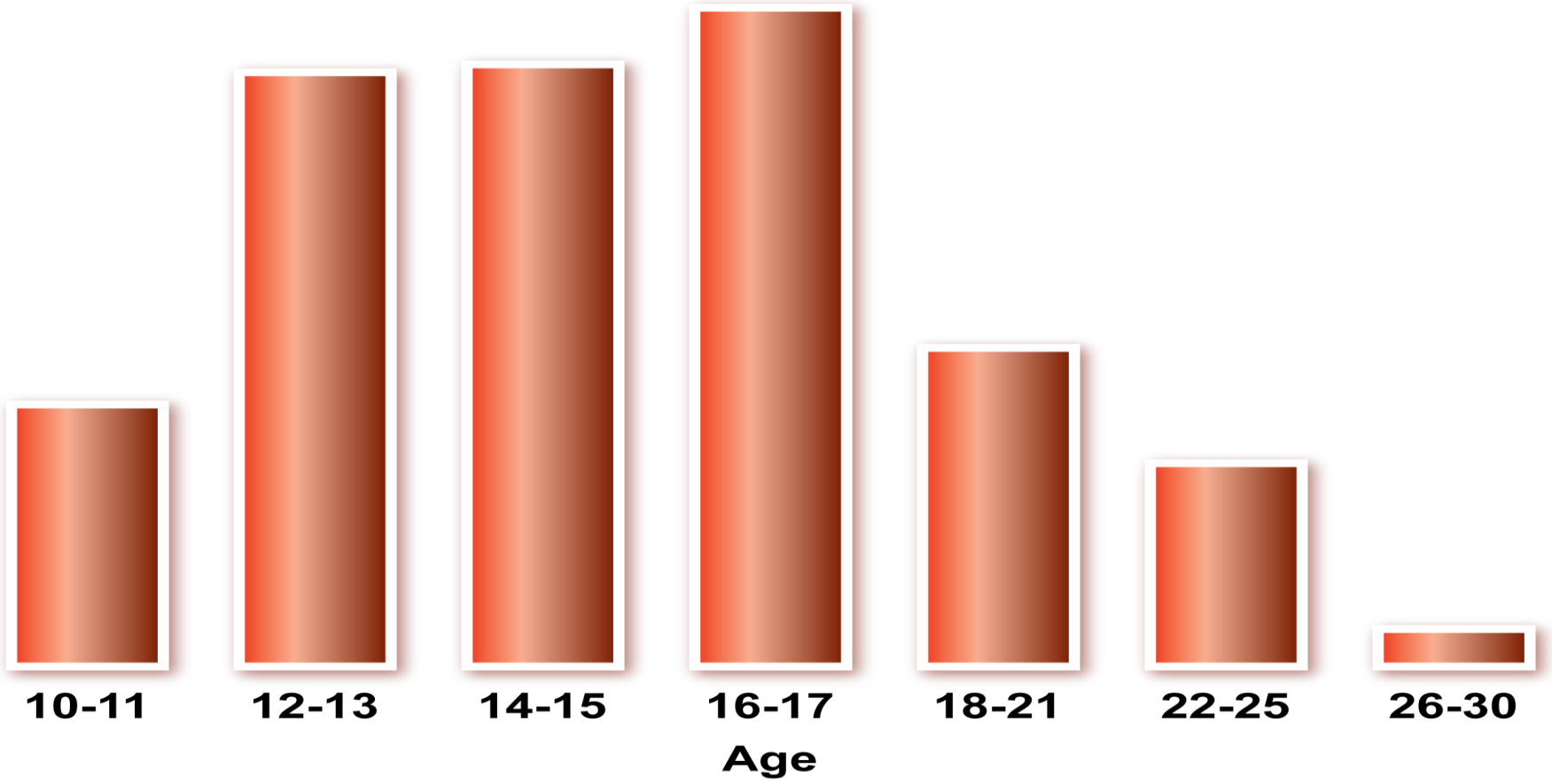
(Steinberg, et.al., 2008)

Sensation-seeking Declines with Age



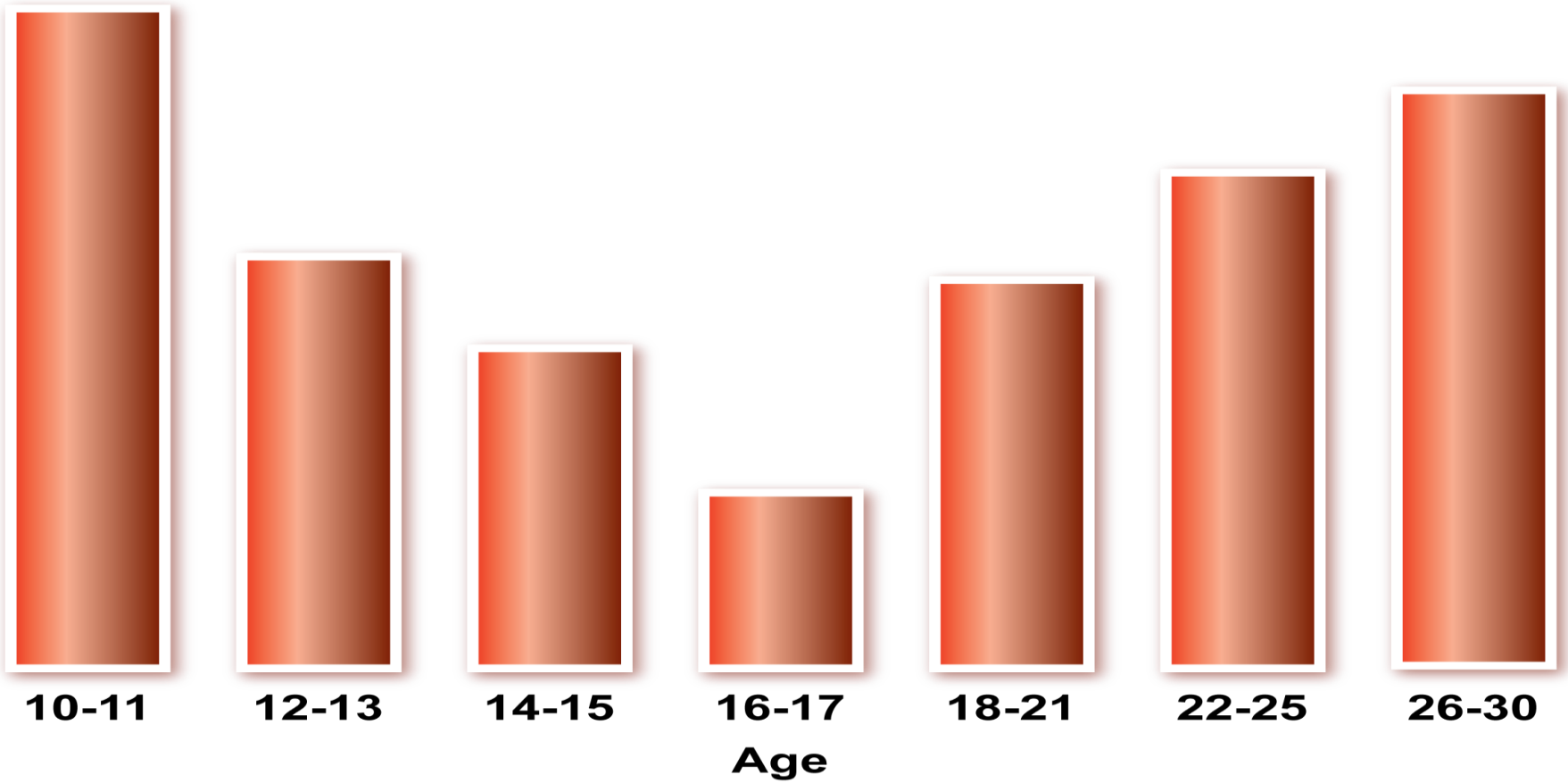
(Steinberg, et.al., 2008)

Risk Preference High in Mid-Adolescence



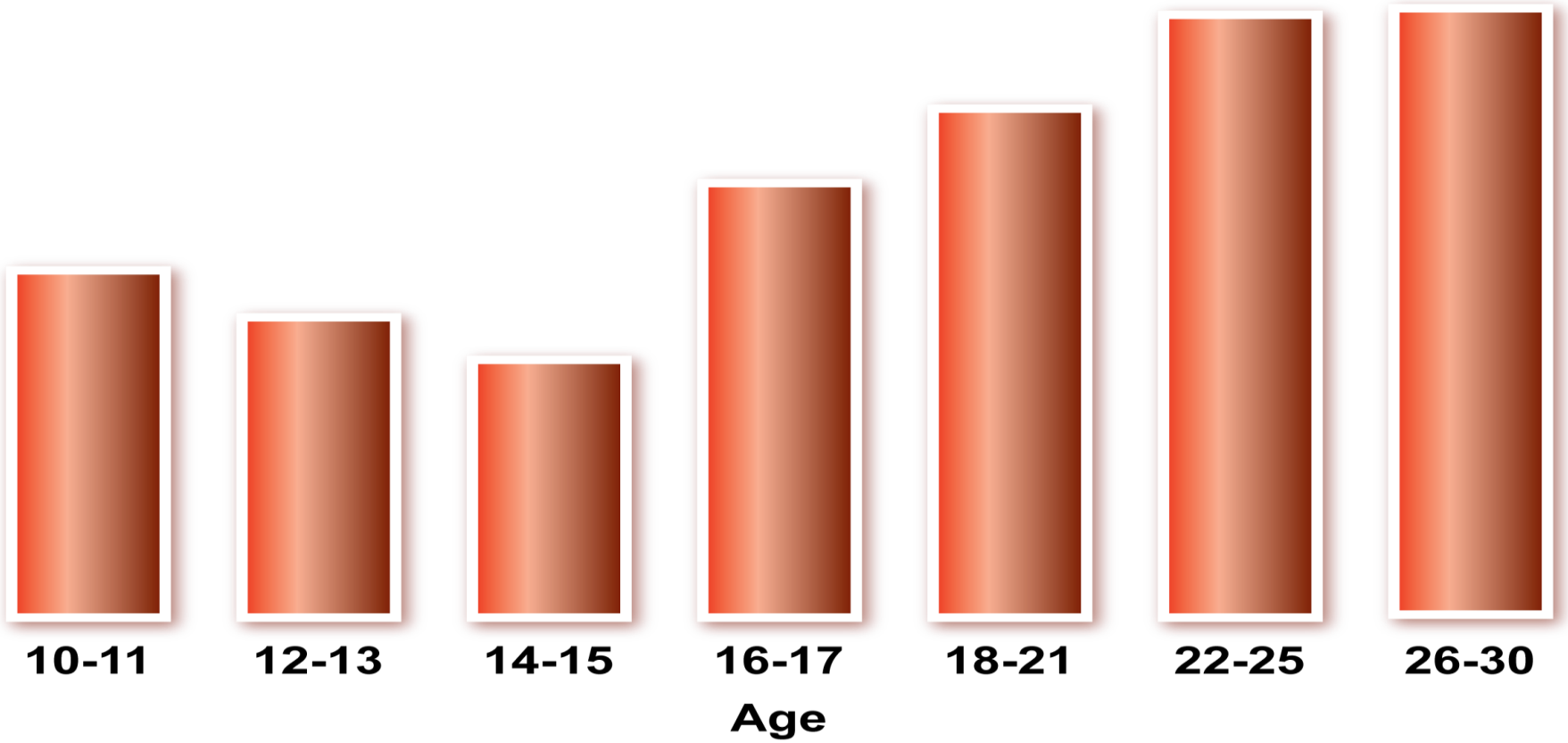
(Steinberg, et.al., 2009)

Risk Perception Declines and then Increases After Mid-Adolescence



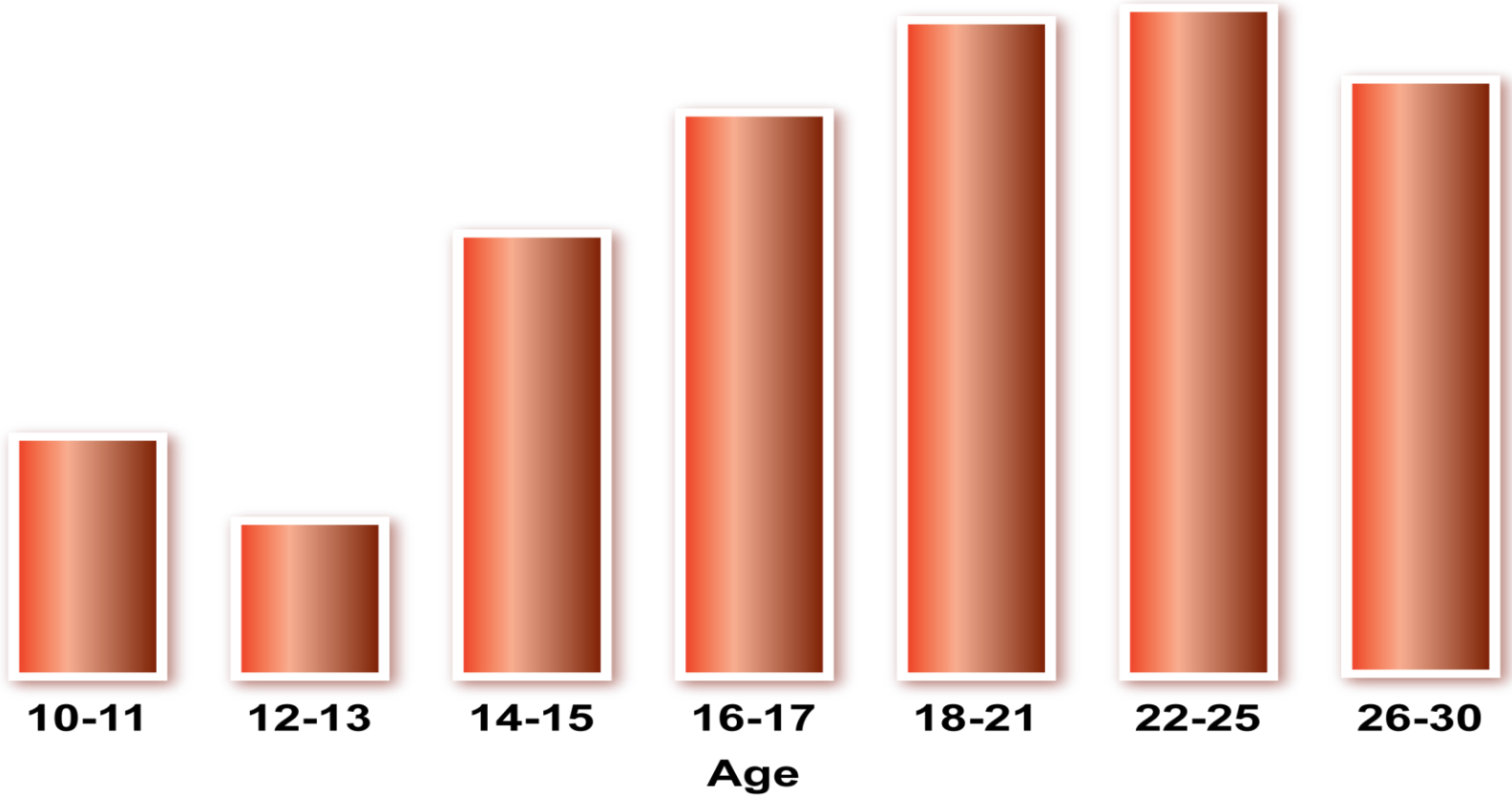
(Steinberg, et.al., 2009)

Future Orientation Increases with Age



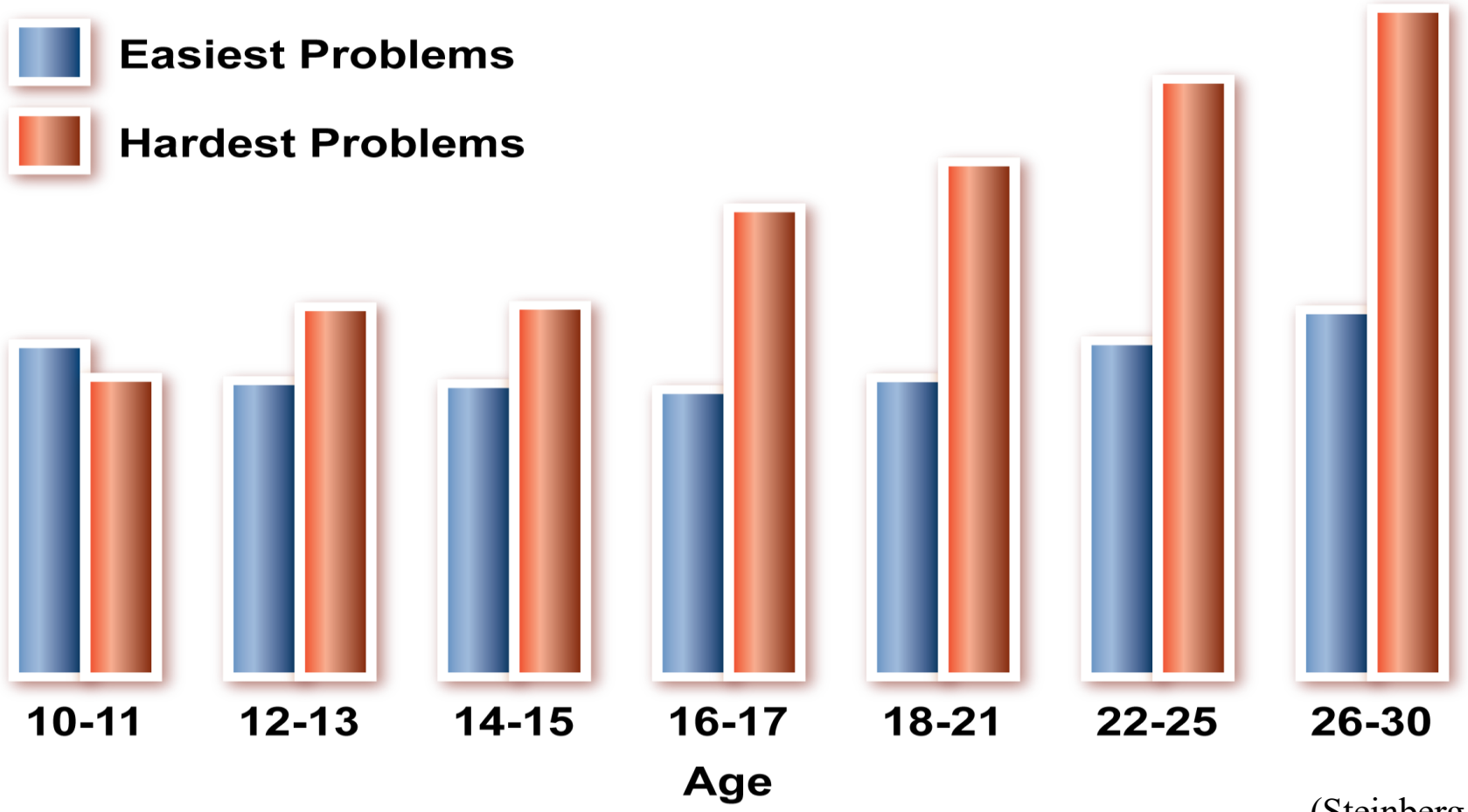
(Steinberg, et.al., 2009)

Older Individuals Are More Willing to Delay Gratification



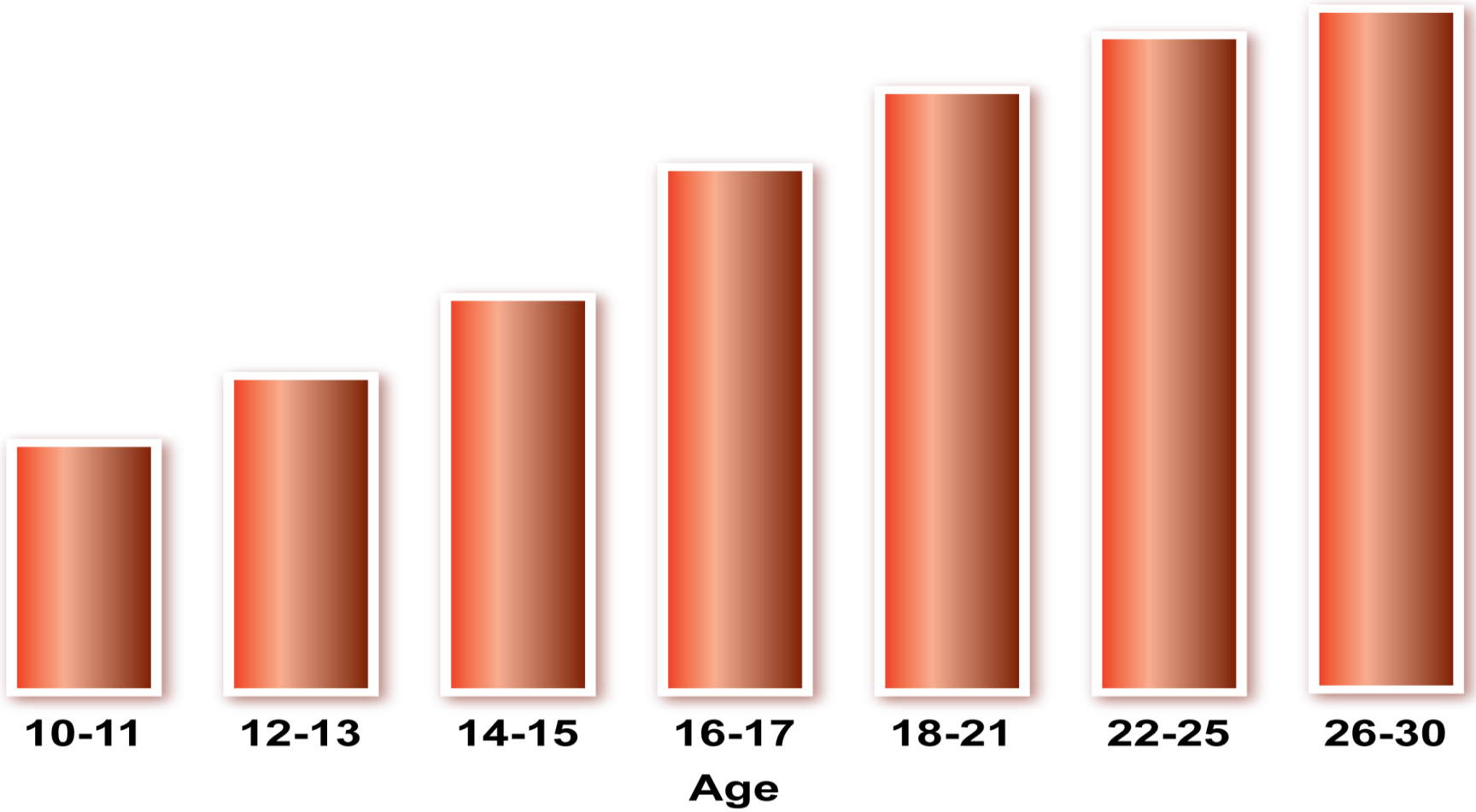
(Steinberg, et.al., 2009)

With Age, Longer Time Spent Thinking Before Acting



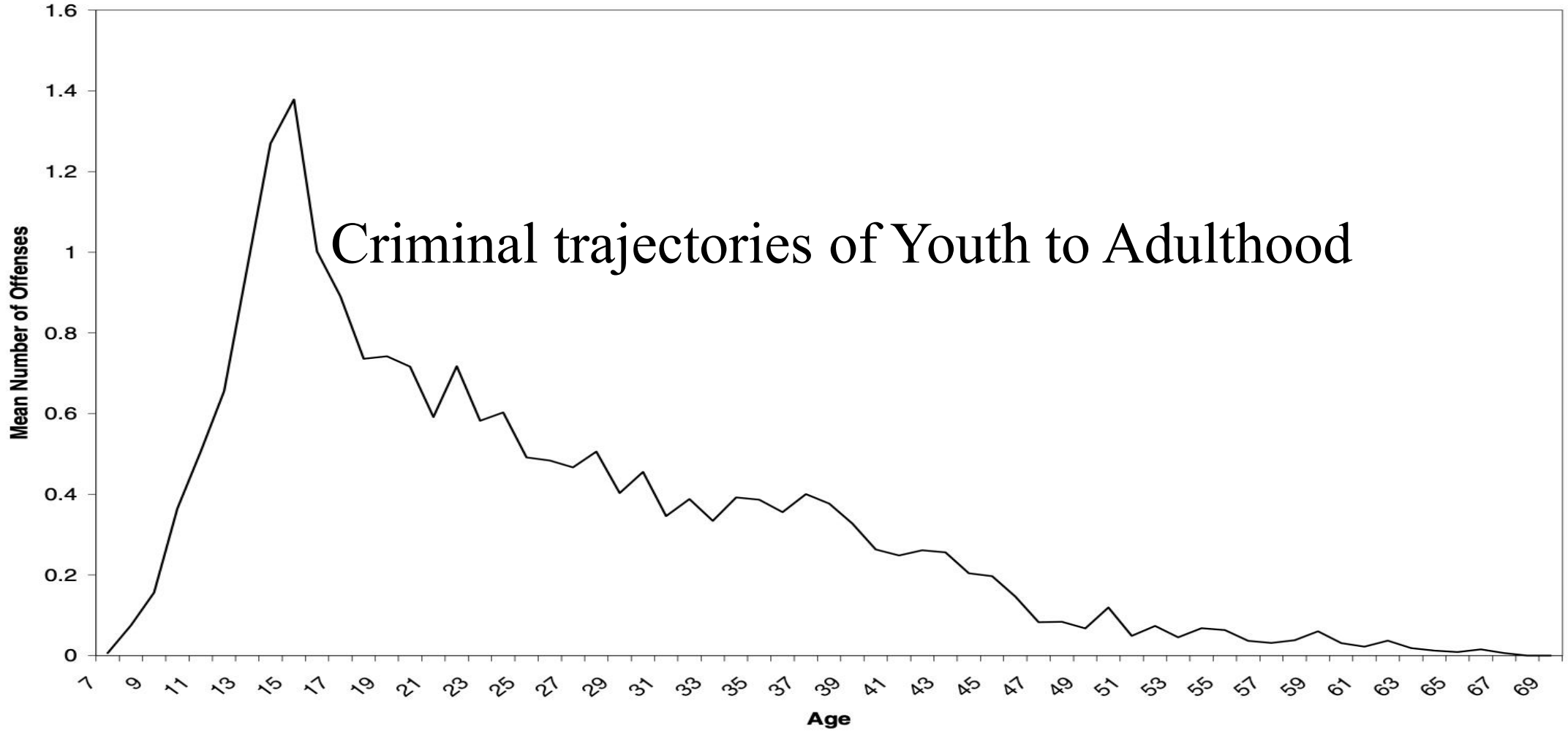
(Steinberg & Monahan, 2007)

With Age, Individuals Become More Resistant to Peer Influence



(Steinberg & Monahan, 2007)

Figure 1. Actual Mean Number of Offenses for Total Crime (Total Events = 9,548): Ages 7 to 70



Sampson, R. J & Laub, J. H. (2003)

Criminal Trajectories of Youth to Adulthood

“We conclude that desistance processes are at work even among active offenders and predicted life-course persisters, and that childhood prognoses account poorly for long-term trajectories of offending”

Sampson, R. J & Laub, J. H. (2003)

But When is the Brain Finished developing?

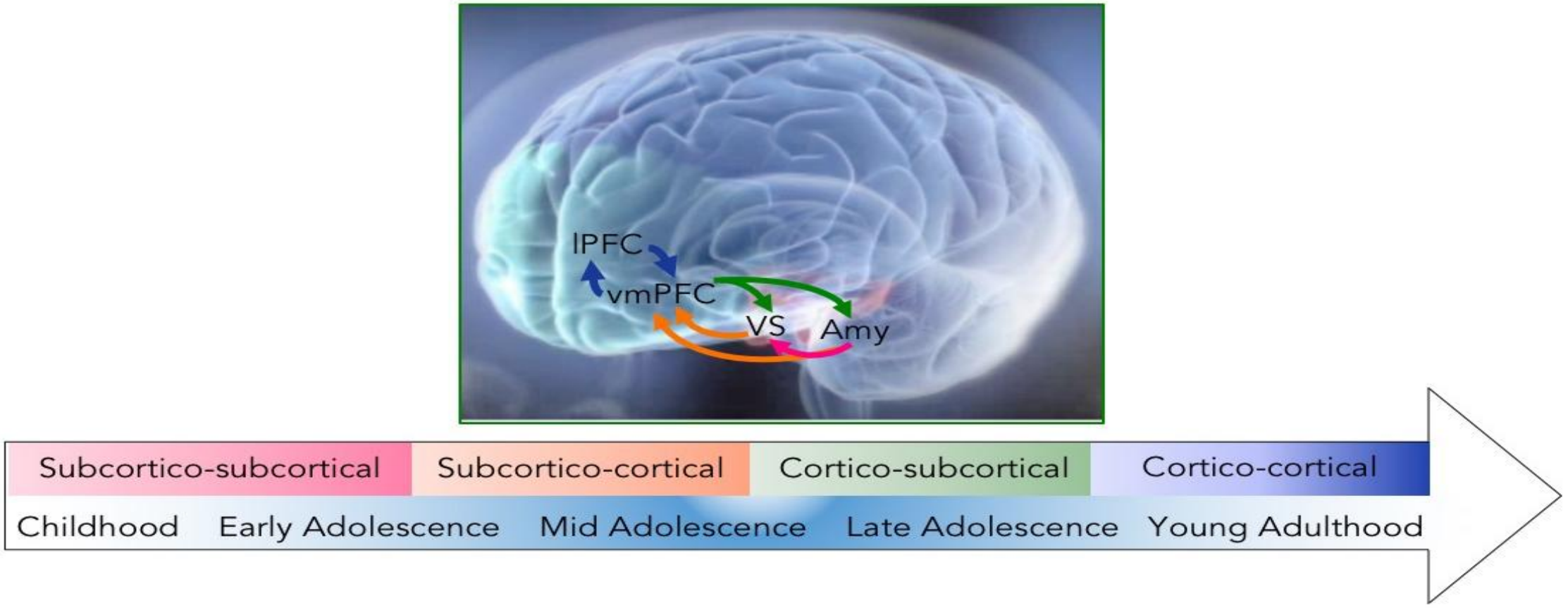


Figure 5: Casey 2020. Illustration of hierarchical development of brain circuitry. Amy is amygdala; VS is ventral striatum; vmPFC is ventromedial prefrontal cortex; lPFC is lateral prefrontal cortex.

But When is the Brain Finished developing?

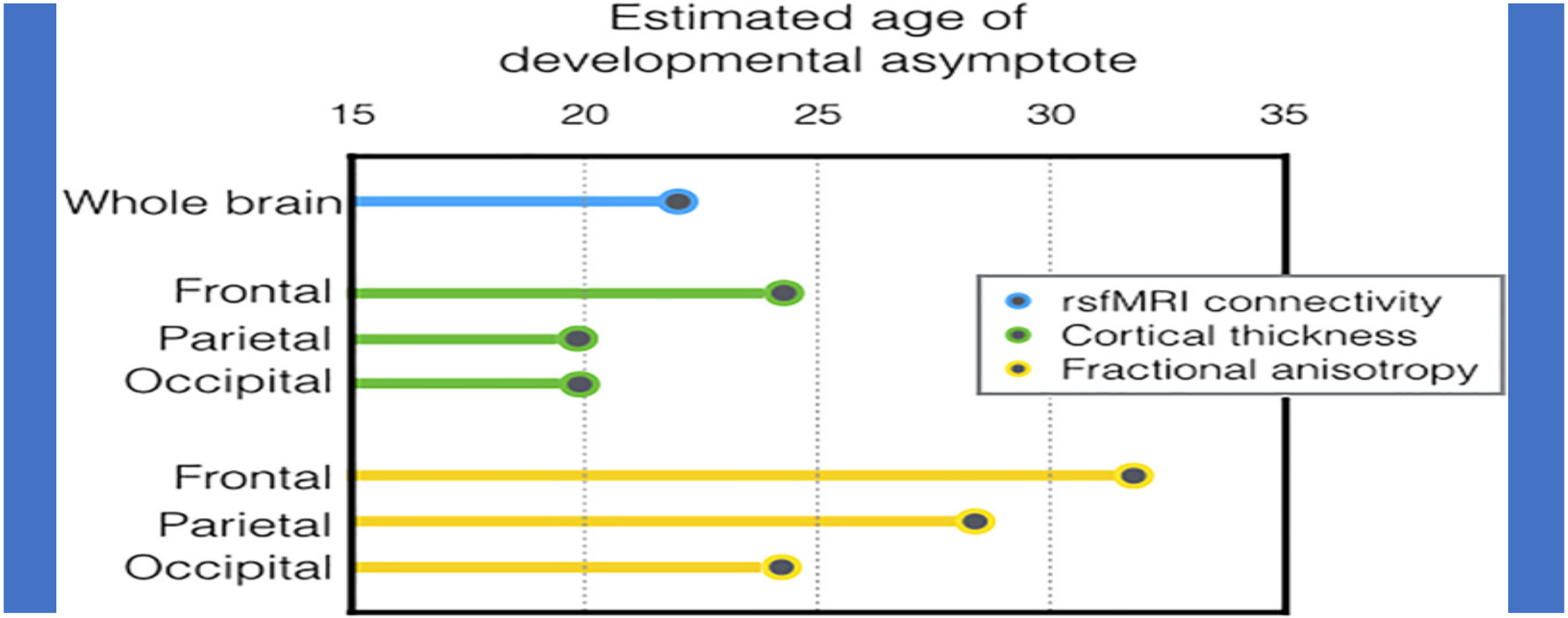
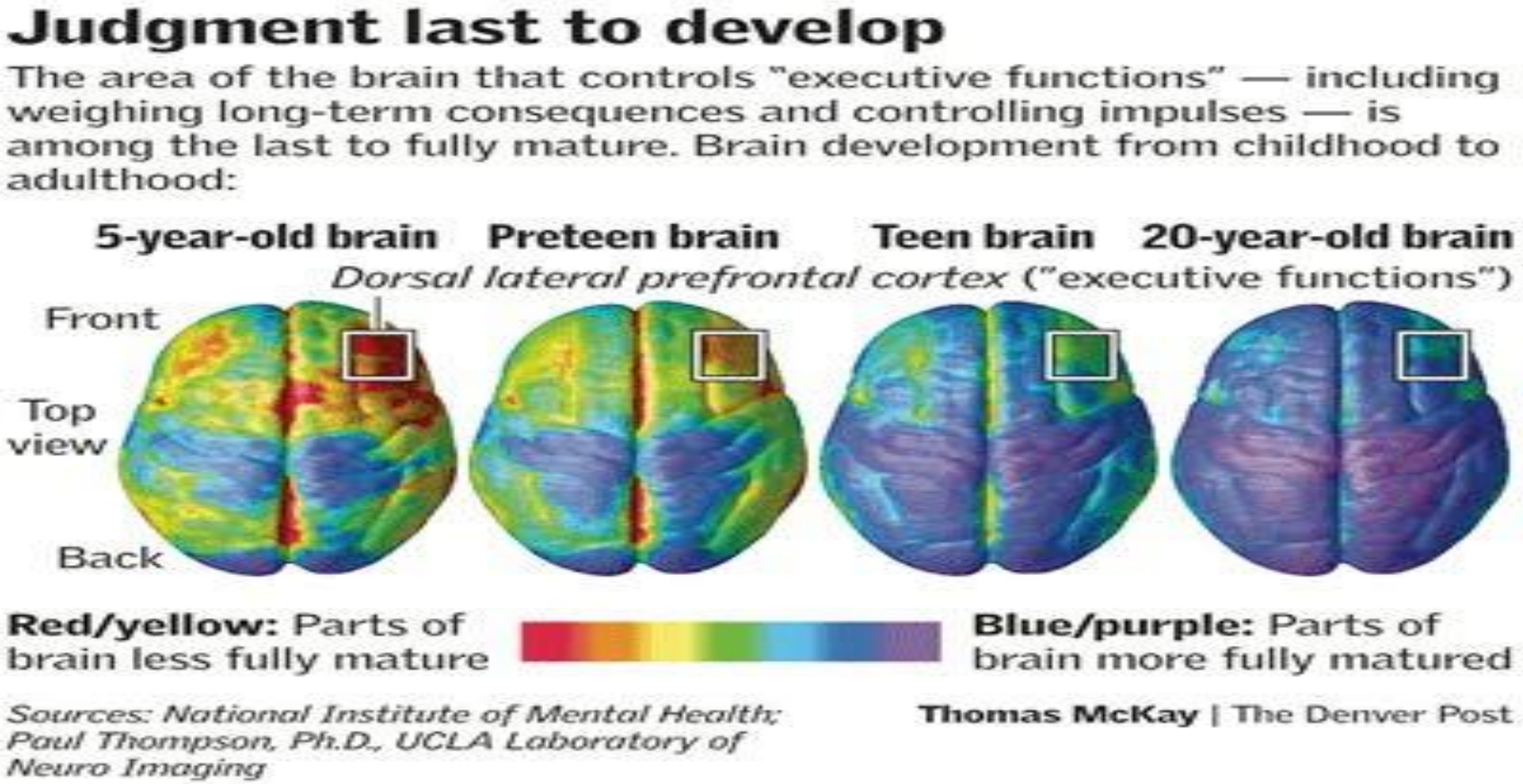
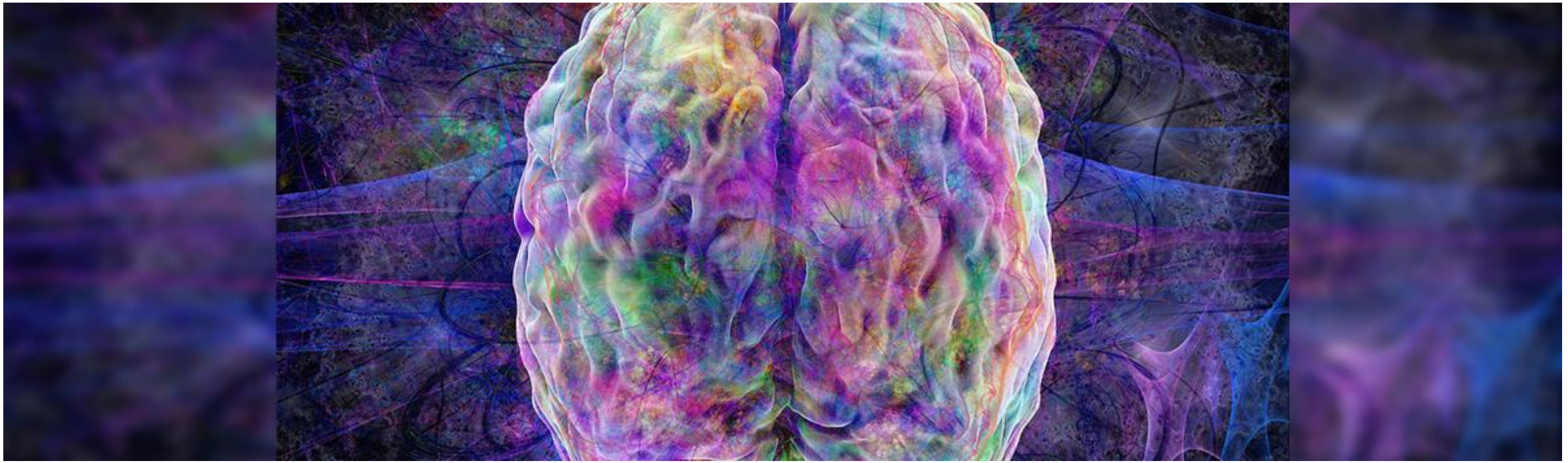


Figure 1: Somerville 2016. Age of developmental asymptote (plateau) for different brain measures. rsfMRI is a measure of whole brain connectivity;a cortical thickness is a measure of grey matter development; fractional anisotropy is a measure of white matter development

Judgment Last to Develop….



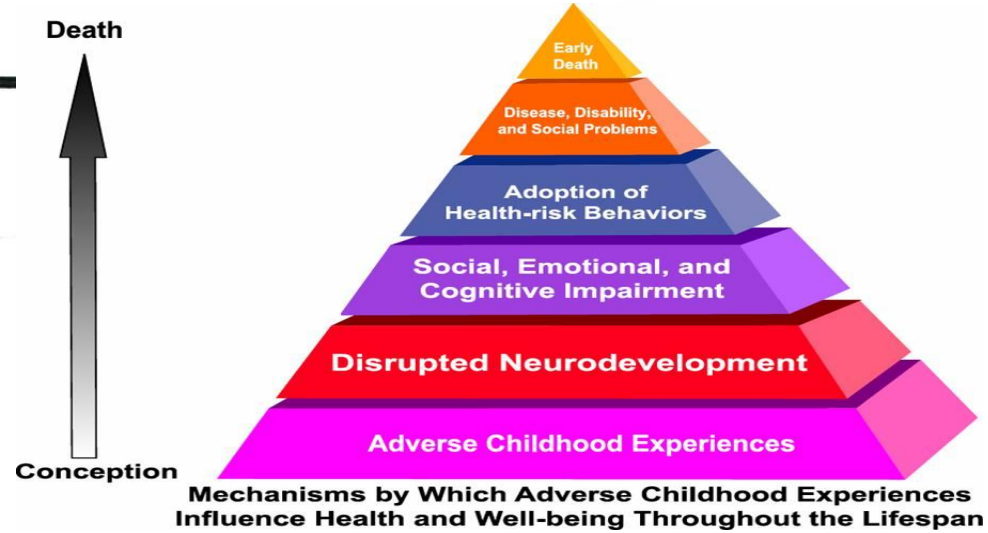
Trauma/Environment and the Teen Brain



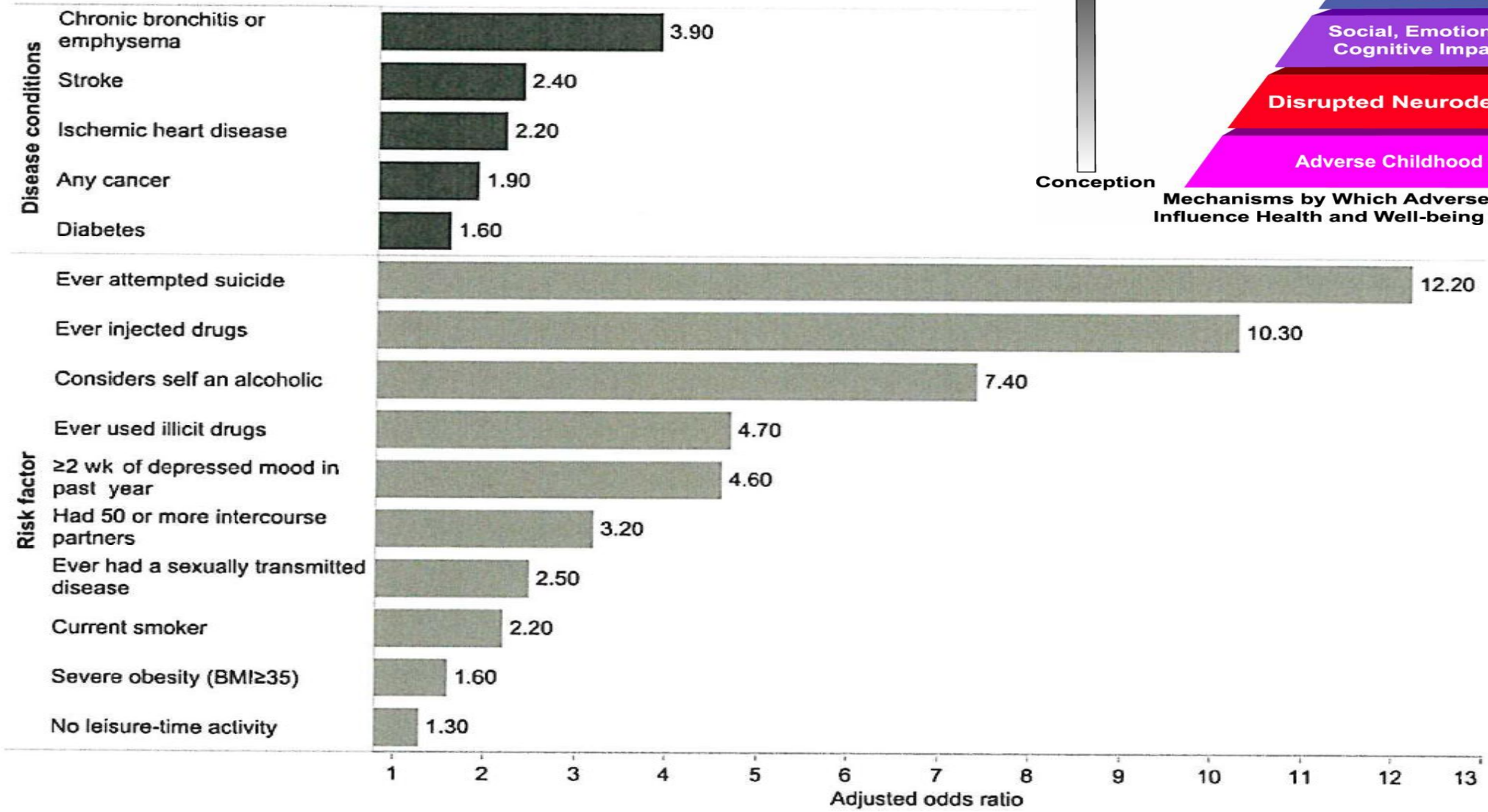
Effect on brain from toxic stress			
Brain area	**Function**	**Neuronal impact of toxic stress**	**Behavioral consequence**
Amygdala	• Brain "alarm" • Responsible for emotional memory • Generates aggressive or impulsive behaviors to protect the body	Amygdala gets bigger	• Aggressive behavior with minimal threat • Impulsivity that can mimic ADHD
Hippocampus	• Brain "search engine" • Allows brain to access information from other brain centers • Role in learning and memory	Limits neuronal formation (normally neuron formation in hippocampus occurs throughout lifespan)	• Protective effect of some amnesia about prior trauma • Limits learning • Negatively impacts educational achievement

Prefrontal cortex	• Suppressing impulses and emotion generated by amygdala, hippocampus and other limbic structures
	• Executive function
	  • Impulse control
	  • Working memory
	  • Cognitive flexibility
		Slows connections between nerve cells	• Limited ability to suppress aggression
			• Limits ability to think through consequences of actions
			• Can look like ADHD, aggression or oppositional defiant disorder

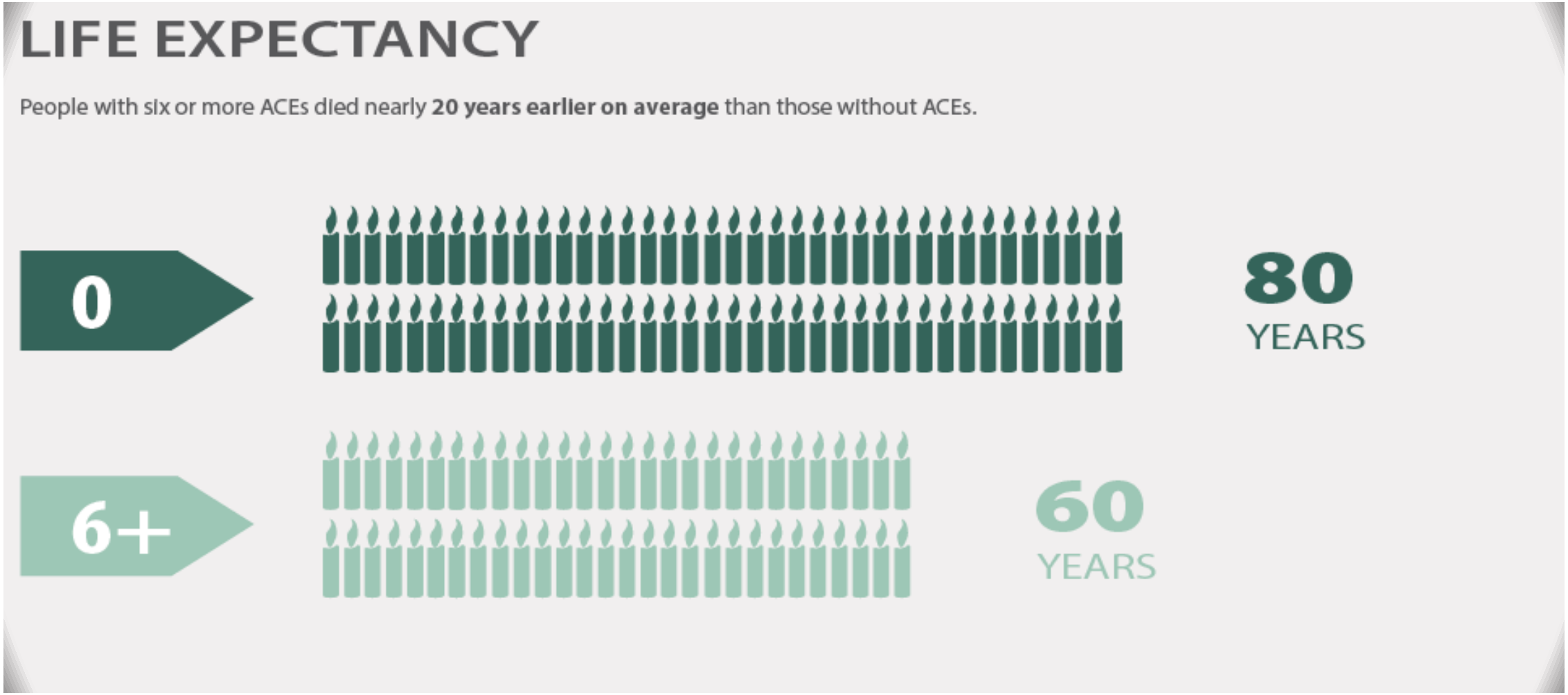
TOXIC STRESS IN CHILDREN AND ADOLESCENTS



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



Effects of adverse childhood experiences



What Does It All Mean?

- Adolescence is a time characterized by a socio-emotional system that is easily aroused and highly sensitive to social feedback
- Reward-seeking increases when peers are present
- Less able or likely to:
  - control impulses
  - resist pressure from peers
  - think ahead
- More driven by the thrill of rewards
- We have a good understanding of the neurobiological underpinnings of these qualities

To summarize the neuroscience, it is like …..

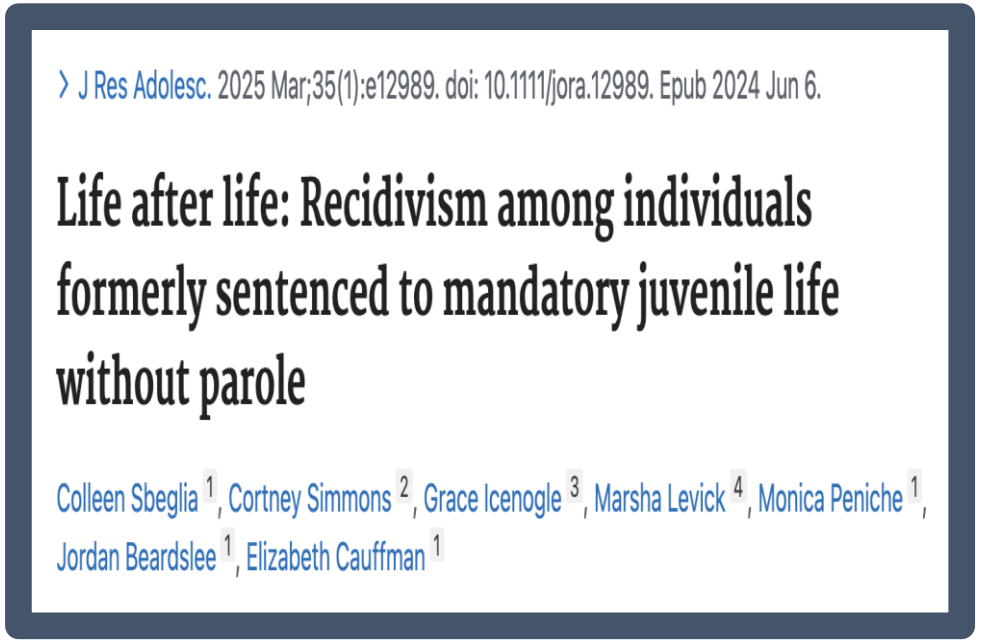




Recidivism Data Post-*Miller*

2025 Pennsylvania Study Outcomes

- Tracked **287 individuals** formerly sentenced to life without parole for **juvenile homicide convictions in PA** who were later resentenced and released under *Miller* and *Montgomery.*
- **5.2% (15 of 287)** were charged with a misdemeanor or felony.
- **Most new charges were non-violent:**
  - **6** were *contact offenses*
  - **4** were *drug-related*
  - **3** were *weapons charges*
  - **2** were *property crimes*



Sbeglia, C., Simmons, C., Icenogle, G., Levick, M., Peniche, M., Beardslee, J., & Cauffman, E. (2025). Life after life: Recidivism among individuals formerly sentenced to mandatory juvenile life without parole. Journal of Research on Adolescence, 35(1), e12989

2022 Philadelphia Study Outcomes

- Study of **112 individuals** released in Philadelphia after serving life sentences for **juvenile homicide convictions**.
- Reentry outcomes were highly successful:
  - **81%** secured stable housing
  - **75%** were employed at least part-time
  - **100%** reconnected with family



Daftary-Kapur, T., Zottoli, T. M., Faust, T., & Schneider, R. (2022). A first look at the reentry experiences of juvenile lifers released in Philadelphia. Psychology, Public Policy, and Law, 28(3), 400–413. https://doi.org/10.1037/law0000344.

2023 California Study Outcomes

125 individuals sentenced to life without parole and later released through legal reforms or commutations between 2011 and 2019 in California.

- 3.2% (4 individuals) were convicted within three years.
  - 1 felony offense
  - 1 drug/alcohol misdemeanor
  - 2 minor, non-violent misdemeanors
- Community reintegration outcomes:
  - 94% volunteered regularly
  - 84% provided financial support to others
  - 90% were employed (full- or part-time)
  - 43% worked in the nonprofit sector

Leavell, A. (2023). “I Just Want to Give Back”: The Reintegration of People Sentenced to Life Without Parole. Human Rights Watch.

The Latest Science of Intimate Partner Violence



Shifts in how we understand IPV

INCIDENTS → PATTERNS

Control may occur through repeated nonphysical acts.

Control may occur through repeated nonphysical acts.



STRESS → MULTIPLE PATHWAYS

Psychological trauma, injury, sleep loss, and fear can coexist.

INTUITION → STRUCTURED DECISION-MAKING TOOLS

Risk assessment improves consistency but cannot predict an individual future.

Intimate partner violence is more than physical assault

Physical / sexual violence

Assault, sexual coercion, injury, threats of physical harm.

Coercive control

Monitoring, isolation, intimidation, restrictions on resources and autonomy.

Technology-enabled abuse

Location tracking, account access, persistent digital harassment.



A survivor's behavior is not a diagnostic test

Delayed disclosure

Fear, practical constraints, shame, and perceived danger can affect when and how someone reports.

Continued contact

Childcare, economic dependence, threats, attachment, or ongoing legal obligations may shape decisions.

Variable presentation

Flat, emotional, calm, or distressed demeanor is not a reliable stand-alone measure of truth.



Trauma and memory: what science does—and does not—say

- Stress can influence attention, encoding, retrieval, and the detail remembered.
- An inconsistency does not automatically establish deceit; nor does trauma explain every inconsistency.
- Confidence, emotional intensity, and vividness are imperfect indicators of accuracy.
- Ask neutral, specific questions and evaluate alternative explanations and independent evidence.



A major emerging frontier: IPV-related brain injury

Head impacts

Blows, falls, and repeated assaults can cause traumatic brain injury.

Nonfatal strangulation

Possible vascular, hypoxic, and neurological consequences—even when external findings are limited.

Functional effects

Memory, attention, processing speed, and executive functioning may be affected.



Nonfatal strangulation deserves focused attention

A critical danger signal, not proof of any particular future outcome

- Potentially serious injury can occur without obvious external marks.

- Ask about strangulation history using precise, nonleading questions when relevant.

  - The Lethality Screen Program LAP 2.0 classifies reported strangulation as high danger.



Risk factors: examine combinations and change over time

History

Prior assault, threats, coercion, stalking, and violent behavior.

Transitions

Separation, divorce, disputes over contact, or changing control.

Capabilities / access

Weapons, opportunities to approach, escalating monitoring, and victim-reported fear.



Six science-informed practices

1. Identify patterns, not only isolated acts.
2. Ask about concrete threats, constraints, and escalation.
3. Avoid demeanor-based shortcuts about credibility.
4. Consider brain injury and cognitive accessibility when indicated.
5. Use structured risk assessment information with known limitations.
6. Ground every conclusion in the record and governing law.



- American Society of Addiction Medicine, www.asam.org
- Center for Disease Control and Prevention, www.cdc.gov
- Center on the Developing Child at Harvard University, www.developingchild.harvard.edu/
- Guidelines for Court Practices for Supervised Visitation, www.mass.gov/files/documents/2018/11/29/supervised-visitation-guidelinesfinal%20%281%29.pdf
- National Association for Children of Addiction: www.nacoa.org
- National Institute on Drug Abuse, www.drugabuse.gov
- National Institute of Mental Health, www.nimh.nih.gov
- Ruth Potee, M.D., www.ruthpotee.com/
- Smart Recovery, www.smartrecovery.org
- Standards for Supervised Visitation Practice, www.svnworldwide.org/attachments/standards.pdf
- Substance Abuse & Mental Health Services Administration, www.samhsa.gov
- Substance use and parenting: Best practices for family court practitioners. https://www.afccnet.org/LinkClick.aspx?fileticket=-RkXrNzIkr8%3d&portalid=0
- Tabashneck, S., Drozd, L. & Soilson, J. (in press), Substance Use Disorders: A Primer for Family Dispute Resolution Practitioners, book chapter: The Family Dispute Resolution Handbook. (editors: P. Salem, & K. Brown-Olson).

Resource List

Federal
Roper v. Simmons, 543 U.S. 551 (2005).
Graham v. Florida, 560 U.S. 48 (2010).
Miller v. Alabama, 567 U.S. 460 (2012).
Atkins v. Virginia, 536 U.S. 304 (2002).

Massachusetts
Diatchenko v. District Attorney for the Suffolk District, 466 Mass. 655 (2013).
Commonwealth v. Mattis, 493 Mass. 201 (2024).

Kentucky
Commonwealth v. Bredhold, 599 S.W.3d 409 (Ky. 2020).

New Jersey
State v. Suarez, 519 N.J. Super. 1 (App. Div. 2025).
State v. Abruzia, 519 N.J. Super. 1 (App. Div. 2025).

Florida
Romero v. State, 105 So. 3d 550 (Fla. Dist. Ct. App. 2012).
Marshall v. State, 266 So. 3d 1275 (Fla. Dist. Ct. App. 2019).

Washington
State v. Odell, 183 Wn.2d 841, 365 P.3d 356 (2015).
State v. Carter, 196 Wn.2d 533, 475 P.3d 622 (2020).
State v. Haag, 198 Wn.2d 309, 495 P.3d 241 (2021).
State v. Monschke, 197 Wn.2d 305, 482 P.3d 276 (2021).
State v. Reite, 196 Wn.2d 935, 479 P.3d 872 (2021).
State v. Odell, 183 Wn.2d 841, 365 P.3d 356 (2015).
State v. Anderson, 200 Wn.2d 266, 516 P.3d 1213 (2022).

Steinberg, A Social Neuroscience Perspective on Adolescent Risk-Taking, 28 Developmental Rev. 78, 82-84, 85-89 (2008)

Sentencing Project: https://www.sentencingproject.org



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