**TOPICAL TRAINING** 

**SEXUAL RISK AVOIDANCE EDUCATION** 



**FYSB** Family & Youth Services Bureau Adolescent Pregnancy Prevention Program



# Promoting the Avoidance of Risky Behaviors Using Trauma-Informed, Self-Regulation Strategies

#### November 15-16, 2022

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# **Opening Remarks from FYSB**



#### **Presenters**







#### Hannah Snyder

Scott Patterson



# **Live Virtual Training Logistics**

Please remain muted when not talking
Check your computer audio volume & enable speaker (if trouble hearing)
If comfortable, share video

•Training recording and materials will be available

**Engagement:** 







### Learning Community Agreements:

- •Participate fully
- Delay distractions
- •Honor different experiences
- •Be brave and explore
- •Intent ≠ Impact
- •Others? (Type in chat)



#### Roadmap

#### 1. Adolescent Brain and Cognitive Development

- 2. Healthy and Unhealthy Risk-Taking During Adolescence
- 3. Role of Stress and Adversity



#### **Adolescence: Important Transitions**

- Brain and cognitive development
- Identity formation
- Increased independence
- Peer relationships prioritized

Increased potential for risk-taking



MASTERFILE/MASTERFILE



#### **Adolescent Brain and Cognitive Development**

 The brain is not fully adultlike until early 20s



Sources: National Institute of Mental Health; Paul Thompson, Ph.D., UCLA Laboratory of Neuro Imaging Thomas McKay | The Denver Post



#### **Adolescent Brain and Cognitive Development**





# **Adolescent Brain and Cognitive Development**

- What is happening in the brain during adolescence?
  - *Myelination:* Neurons get faster at sending signals
  - *Synaptic pruning*: Neurons get rid of some of their connections to other neurons
  - Experience shapes which connections are kept vs. eliminated
    - Makes the brain more efficient





# **Executive Function: What Is It?**

- Cognitive control processes that allow self-regulation and selfdirected behavior toward goals
- Associated with
  - Academic/occupational functioning
  - Social functioning
  - Health behaviors
  - Mental health

#### **EXECUTIVE FUNCTION**

WORKING MEMORY RESPONSE INHIBITION FLEXIBILITY (SHIFTING/SWITCHING)

> PLANNING/SEQUENCING DECISION MAKING IMPULSE CONTROL SELF-MONITORING ORGANIZATION



# **Executive Function: Role in Decision-Making**

- Acting according to your goals, not your impulses
- Planning ahead and following the plan
- Flexibly changing what you are doing when the circumstances change
- Regulate emotions





#### **Executive Function: How Does it Typically Develop?**

 Prolonged development through adolescence



FIGURE 3-2 Impulse control as a function of age. SOURCE: Casey, 2008. Data were collected as part of a National Institute of Drug Abuse grant no. R01DA018879 to B.J. Casey at Weill Cornell Medical College.



#### **Executive Function: How Does it Typically Develop?**

- At older ages:
  - More *proactive*: able to plan ahead
  - More *self-directed:* Able to control behavior on their own without adult instructions/support





#### **Atypical Development & Function**

 Many neurodevelopmental and mental health conditions are characterized by poor executive

#### function. Examples include:

- ADHD
- Depression
- Autism Spectrum Disorder
- Oppositional Defiant Disorder
- Developmental delays/disorders
- Fetal Alcohol Spectrum Disorder
- Brain injuries (including concussions)



#### **Atypical Development & Function**

- Signs of poor executive function in daily life:
  - Easily distracted
  - Difficulty starting or completing tasks
  - Poor time management
  - Disorganized
  - Indecisive
  - Impulsive (acts rashly, blurts things out)
  - Inappropriate reactions (poor emotion regulation)
  - Hard time with transitions

#### **Executive Dysfunction**

Some examples of executive dysfunction include:





Focusing too much on just one thing.

Being easily distractible.

Daydreaming or "spacing out" when you shouldn't be.







Struggling to switch between tasks.

Problems with impulse control.

Trouble starting difficult or boring tasks.



#### Reward System: What Is It & Role in Decision Making

- Being motivated by, anticipating, and responding to rewards
- *Reinforces* (increases) behaviors that lead to rewards





# **Reward System: How Does it Typically Develop?**

- Reward sensitivity is higher in adolescence than in childhood or adulthood
- May facilitate transition to independence



Fig. 1. Brain activity in the ventral striatum during reward processing in children, adolescents, and adults. (Galván et al., 2006).



#### **Atypical Development & Function**

- Many neurodevelopmental and mental health conditions affect the reward system. E.g.
  - Depression → Reduced reward sensitivity → Loss of interest/motivation and pleasure
  - ADHD → Reduced ability to wait for rewards → Increased impulsive reward seeking



# **Summary of Part 1**

- Brain is still developing during adolescence
- Executive function not fully mature until early adulthood
  - Becoming more able to plan and control own behavior
- Reward sensitivity peaks in adolescence
  - May facilitate transition to independence but can increase risk taking
- Both executive function and reward sensitivity can be affected by many neurodevelopmental and mental health disorders



### **Break-Out 1: Reading Discussion**

What is wrong with the metaphor that adolescents are "all gasoline, no breaks and no steering wheel?"

#### **ODDS** ASSOCIATIO PSYCHOLOGICAL SCIENCE

The Teenage Brain: Self Control

B. J Casey and Kristina Caudle Sackler Institute for Developmental Psychobiology and Department of Psychiatry, Weill Cornell Medical Collece Current Directions in Psychological Science 22(2) 82–87 © The Author(s) 2013 Reprints and permissions: sagepub.com/journals/Permissions.nav DOI: 10.1177/0963721413480170 odps.sagepub.com

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#### Roadmap

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### **Dual-Systems Model**

 Gap between strong reward system and weaker executive function system in adolescence → more risk taking





### **Increased Risk Taking in Adolescence**

 Highest risk-taking on risk-reward tasks occurs in adolescence



**Figure 6.4** A large study in youth reports a curvilinear trend in laboratory-based risk-taking behavior across development that peaks in adolescence. BART = Balloon Analogue Risk Task (Braams et al., 2015).



# **Increased Risk Taking in Adolescence**

- Increased real-world risk taking in adolescents and young adults, for example:
- **1** Risky sexual behavior
- **1** Sexual coercion and dating violence
- **1** Bing drinking & substance use
- **1** Accidental deaths
- **1** Reckless driving
- 1 Criminal activity

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Involvement Rate in Fatal Crashes by Age Group Age of Drivers Involved in Fatal Crashes per 100,000 Licensed Drivers



#### Increased Risk Taking in Adolescence: Healthy vs. Unhealthy Risks

- Not all risk taking is negative
  - E.g., trying out for a team, taking a challenging class, trying to make new friends
- Healthy risk taking:
  - Benefit adolescents' well-being
  - Potential costs are mild
  - Socially acceptable



Duell & Steinberg, 2019



#### Increased Risk Taking in Adolescence: Healthy vs. Unhealthy Risks

• Environments influence healthy vs. unhealthy risk taking

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b: Heightened reward drive in adolescence a: Differential susceptibility model Detrimental **Risk taking** High reward drive High reward drive **Risk taking** Low reward drive Low reward drive Optimal **Risk taking** environmental experiences Supporting environment Unsafe environment Positive peer relations Negative peer relations biological development (e.g., puberty) Crone & van Duijvenvoorde, 2021

#### Increased Risk Taking in Adolescence: Healthy vs. Unhealthy Risks

- Better executive function = more healthy (reasoned) and less unhealthy (reactive) risk taking.
- Higher prosociality = more healthy (prosocial) and less unhealthy (antisocial) risk taking







#### When is Unhealthy Risk-Taking Most Likely?

Adolescents

 take more
 unhealthy risks
 in the presence
 of peers





Chein et al, 2010



#### **Summary of Part 2**

- Gap between still-developing executive function and high reward sensitivity in adolescence leads to higher risk taking.
- Unhealthy risk taking can lead to harm
  - Is more likely in unsafe environments, unhealthy peer relationships
- Healthy risk taking is beneficial
  - Is more likely in supportive environments, healthy peer relationships
- Adolescents take more risks when with peers, but not necessarily on their own



#### **Break-Out 2: Vignettes**

Which situations (on next slide) are most likely to lead to unhealthy risk taking, and why?





#### **Break-Out 2: Vignettes**

#### Vignette 1:

Matt is hanging out with a group of peers after school. He is not the most popular, and tends to get teased by some of the others. They go into a store, and some of the teens start putting candy in their bags. Matt has never shop-lifted before, but most popular boy in the group tells him "be cool, we won't get caught".

#### Vignette 2:

Andy's favorite band is playing a concert in a nearby city next week. They'd really like to go, and they're parents will probably say yes, but it would mean taking the train alone for the first time, and it will late at night on the way home. They decide to text a friend that also likes the band to see if she wants to come with them.

#### Vignette 3:

Emma is home after school. People from her high school are posting on social media about a party the following night. Everyone's talking about how wasted they'll get. She doesn't usually drink, but it sounds like everyone else will be there. She hasn't joined in the discussion yet, but tomorrow at school her friends will definitely ask if she's going.



#### Roadmap

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# **Childhood Adversity**

- Deprivation: lack of normal cognitive and social stimulation (e.g., neglect)
- *Threat:* actual or perceived danger (e.g., violence, abuse)



Sheridan & McLaughlin, 2014



### **Childhood Adversity**

- Threat  $\rightarrow$  dysregulation of emotional control
- Deprivation  $\rightarrow$  disrupted • development of executive function

POVERTY Threat (violence or trauma) Disrupted pruning of association Deprivation cortex  $\rightarrow$  e.g., (cognitive) Lateral PFC stimulation Dysfunction

Enhanced learning about threat  $\rightarrow$  e.g., reduced control over limbic reactivity



Deficits in Emotional Control



Deficits in Cognitive Control

Sheridan & McLaughlin, 2016



#### **Childhood Adversity: Implications for Decision Making**

- Emotional reactivity also higher in adolescence
- Childhood adversity can increase the gap between emotional reactivity and executive function
   → impulsive decision making in
  - emotional situations



Shulman et al., 2016



#### **Adolescent Stress**

- Adolescence is a time of increased stress:
  - Academic pressures
  - Social pressures
  - Transition to independence
- Increase in stress → Increase in depression and other mental health issues





#### **Stress and Executive Function**

- Both acute and chronic stress
   → impaired executive function
- Impaired executive function
  - → Increased stress





#### **Stress and Executive Function**

- Impaired executive function
   → Unhealthy stress coping
- Unhealthy stress coping →
   Impaired executive function





# **Summary of Part 3**

- Childhood aversity:
  - Threat → dysregulation of emotional control
  - Deprivation → disrupted development of executive function
  - Both can lead to impulsive decision making in emotional situations
- Stress increases in adolescence
  - Stress  $\leftrightarrow$  executive function  $\leftrightarrow$  stress coping
  - Can lead to impaired decision making including unhealthy risk taking



### **Break-Out 3: Reflections**

- Reflect on how better understanding adolescent development can inform your work
- How might it change what you do, how you relate to teens, or how you think about their behavior?





# **Break-Out 3: Reflections**

- Report back from break-out
- Some things to consider:
  - *Acknowledging* that peers and healthy risk taking are very important for teen development.
  - Helping teens *anticipate* situations where they are more likely to take unhealthy risks and *plan* how to avoid those risks *while they are in a calm state* ("strike while the iron is cold").











#### **Day 1 Evaluation**

Please take a few moments to complete a short 8 question survey to give us your feedback on today's training.

To complete the evaluation, scan the QR code or visit <u>https://t.ly/YPE4</u>.



# We look forward to seeing you for session 2 tomorrow!

