ADAPT Substance Use Prevention
Technical Webinar Series

Risk Factors in Substance Use

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NPSC To Improve Lives

ADAPT
A Division for Advancing Prevention & Treatment
CULTIVATING PREVENTION

Washington/Baltimore HIDTA
HIGH INTENSITY DRUG TRAFFICKING AREA

RESOURCE SUPPLEMENT

March 23, 2021

TABLE OF CONTENTS

ADAPT: A Division for Advancing Prevention & Treatment

Mission

ADAPT is a division within the Center for Drug Policy and Prevention at the University of Baltimore. The mission of ADAPT is to advance knowledge, skills, and quality outcomes in the field of substance use prevention while supporting successful integration of evidence-based strategies into communities.

Goals

1. Advance substance use prevention strategies through essential training and technical assistance services and resources.
2. Promote public health and public safety partnerships in substance use prevention.
3. Prepare the future public health and public safety workforces through student engagement in ADAPT operations and projects.

HIDTA Prevention

ADAPT supports the National High Intensity Drug Trafficking Area (HIDTA) Program by operationalizing the National HIDTA Prevention Strategy. ADAPT assists HIDTAs with implementing and evaluating substance use prevention practices within their unique communities. ADAPT also keeps HIDTA communities up to date with advances in prevention science. A variety of trainings and technical webinars to cultivate, nurture, and support hospitable systems for implementation are offered throughout the year.

Technical Assistance

Technical assistance is available to all HIDTA communities in the following domains:

1. Identification of Best Practices in Substance Use Prevention
2. Training
3. Implementation
4. Evaluation
5. Finance/Budgeting
6. Sustainability

CONNECT WITH US ON SOCIAL MEDIA!

For frequent updates from ADAPT, be sure to *follow* and *like* us on the platforms below. These platforms provide an opportunity to share resources and connect with each other.

Platform	Direct Link
facebook	Like our Facebook page today: https://www.facebook.com/ADAPT-100681361632663/
LinkedIn	Follow our LinkedIn Company page for the latest insights and updates: https://www.linkedin.com/company/adapt-a-division-for-advancing-prevention-treatment
YouTube	Subscribe to our YouTube channel for informative video content! https://www.youtube.com/channel/UCbxhs3Kx69_OfAMw628PO7w/

For more information, email us at adapt@wb.hidta.org.

To be notified of upcoming webinars, products, and events, subscribe here!

ADAPT Upcoming Events

Concept Addressed	Technical Webinars (1.5 hours)	Date
Program Planning	Program Planning Fundamentals	**2/18/21** Archived on YouTube
Program Evaluation	Program Evaluation: Getting to Outcomes	**3/4/21** Archived on YouTube
Risk Factors	Interventions to Reduce Risk Factors for Substance Use	**3/23/21** 12:30-2:00pm
Protective Factors	Interventions to Promote Protective Factors for Substance Use	**4/8/21** 2:30-4:00pm
Prevention Systems	A Systems Perspective on Prevention Programs and Policies	**4/22/21** 2:30-4:00pm
Prevention Messaging	Persuasive Messaging in Substance Use Prevention	**5/6/21** 2:30-4:00pm
Value Analysis	The Multiple Dimensions of Prevention Value	TBD
Appraising Evidence	Understanding Emerging, Promising, & Best Prevention Practices	TBD
Leadership	Leading Substance Use Prevention Efforts	TBD
Mentoring	Application of Mentoring Concepts in Substance Use Prevention	TBD
Project Management	Project Management Fundamentals	TBD

For each webinar, a corresponding 10-15 minute **Prevention Pearl** will be released.

Subscribe **here** for event announcements, including our upcoming **Evidence Based Practice Spotlight** series.

ADAPT
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CULTIVATING PREVENTION

National Prevention Science Coalition to improve lives

The National Prevention Science Coalition to Improve Lives (NPSC) was formed as a vehicle to facilitate the use of prevention science findings and evidence-based practices to improve social conditions that otherwise contribute to poor mental, behavioral and physical health. The NPSC is composed of over 700 scientists (representing over 75 universities and organizations), educators, clinicians, practitioners, communications specialists, policymakers and advocates. Domains of interest include inequalities and disparities, mental health, substance misuse, poverty, juvenile justice, child development and welfare, violence, and police-community relations, just to name a few.

Over the past 30 years, prevention science has identified key environmental and social factors that harm health and wellbeing, along with several programs, practices, and policies shown to reduce harm. The Institute of Medicine issued a report in 2009 about what prevention science has achieved. It noted that society now has the knowledge to ensure that virtually every young person arrives at adulthood with the skills, interests, values, and health habits they need to lead productive lives in caring relationships with others. We formed the NPSC to help convey this knowledge to the public and policy arenas.

Effective strategies for preventing behavioral and health problems come from the accumulated research about the risk factors that lead to problems, and the protective factors that prevent them. Prominent among these risk factors are deleterious environmental conditions such as poverty, economic inequality, and discrimination, conditions that increase stress, conflict, and coercive relationships. Neuroscience, epigenetics and behavioral science converge in showing that stress and conflict contribute to the development of most of the psychological and behavioral problems that reduce quality of life and contribute directly to inflammatory processes that lead to poor health and premature death.

With this knowledge, prevention scientists developed programs and policies to prevent multiple problems. At least 16 family-based programs have been shown to significantly improve the quality of family life and prevent many problems (e.g., antisocial behavior, anxiety, depression, alcohol and other substance misuse, risky sexual behavior, school absences, and academic performance). Numerous tested and effective school-based interventions can prevent multiple problems, from early childhood into adulthood. In addition, more than 40 policies have proven benefits in increasing families' economic and social stability.

Extensive analyses of the costs and benefits of these programs indicate that most cost far less than reactive approaches and they save in reduced healthcare, criminal justice, and educational costs, and in increased income to recipients. And perhaps of greatest importance is the potential for the principles that underlie effective interventions, once infused into our mindsets and daily practices, to have an enduring impact on subsequent generations.

We know the science exists to improve lives on a population level. The challenge is to make this knowledge accessible to the public, as well as to policymakers and administrators in federal, state, and municipal agencies that can use it to improve public policy. Few are aware of the wealth of rigorous and replicated research findings generated by prevention science. The NPSC is committed to informing policymakers and the public about the need to widely implement effective preventive interventions and fully embrace their principles by applying them in our daily interactions with children and youth.

NPSC Closes the Gaps

NPSC addresses the major obstacles that often discourage policymakers from drawing on prevention science to formulate effective policies. Major barriers include:

- Prevention research is captured in academic journals where findings are presented in technical language. NPSC educates policymakers and the public through briefings, policy papers, op-eds, fact sheets, and other means that report the science in an accessible format;
- The volume and complexity of new research is daunting. NPSC helps policymakers to distill and analyze key research, making it relevant to conditions in the districts they represent or regions over which they have jurisdiction;
- Policy makers often lack access to scientists who can interpret new research on prevention science and

draw connections to public policy. NPSC members include internationally prominent experts on the prevention of many of the most common and costly problems our nation contends with. We make ourselves available to policy makers and their staff for consultation and advice;
- Members of Congress and their staff lack personal relationships with researchers, which studies have found is an impediment to the use of research by policymakers. NPSC works to promote relationships between policy makers and researchers based on mutual trust, respect and responsiveness;
- Research findings often remain in silo'ed disciplines such as neuroscience or social psychology. NPSC grants policy makers access to interdisciplinary teams who can draw on various fields of study, analyze the best data, and make recommendations to strengthen specific policy proposals; and
- Policy makers have limited access to objective, non-partisan sources of information and analysis on policy. Policymakers embrace NPSC as a source of nonpartisan information and advice which is transparent, honest, impartial, and free of any preconceived policy agenda.
- There are many settings that present opportunities for "knowledge mobilization", one of 3 key goals for NPSC. We offer resources, informational materials, and expertise to governing bodies, school districts, community groups and stakeholders, primary care settings, foundations, and others that play a role in the nurturance of our children and youth.

Accomplishments

Since its creation in 2013, the NPSC has made significant progress in advancing the case for prevention. It has:

- Created a coalition of over 700 members and more than 60 nationally prominent organizations to promote prevention. A list of these organizations is available at http://www.npscoalition.org/affiliations.
- Formed the Congressional Prevention Policy Caucus to make the science accessible on Capitol Hill.
- Provided training to increase the capacity of NPSC members and scientists to advocate for prevention. We conduct workshops, trainings and resources useful for bridging science and policy.
- Hosted 20 congressional briefings. Topics include school violence, child poverty, prevention of violence against women, childhood poverty, home visiting, police-community relations, budgeting for evidence-based prevention, and the prevention of human trafficking.
- Published numerous essays in outlets such as the *New York Times*, *Huffington Post*, *Baltimore Sun*, *JAMA*, *This View of Life*, and others, plus scholarly papers and books designed to promote greater use of prevention science.
- Provided consultation and technical assistance to the federal Evidence-Based Policy Making Commission and to state and local governments and healthcare and human services agencies regarding implementation of evidence-based prevention.

Strengthening Our Impact

Scientific evidence of what works holds the key to preventing problems that can ruin lives and devastate communities. Prevention science, which aims to eliminate problems before they take root, has the ability to place children and youth on the track to lead productive and healthy lives. The extensive expertise of NPSC members across multiple disciplines enables us to advise foundations and policymakers regarding implementation of effective practices and policies with potential to prevent the entire range of mental and behavioral problems.

For more information, contact:

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National Prevention Science Coalition

to improve lives

WHAT IS PREVENTION SCIENCE?

Summary:

For 50 years, Prevention Science has generated practices that improve countless lives by strengthening the conditions for individuals, families, and communities to thrive. A wide range of effective programs and policies are now available to achieve these results. Strategies have been identified that fully support widespread scale-up, increase effective supports, and foster nurturing environments across all communities. By leveraging the policymaking process, we can ensure that the benefits of these advances reach all communities across our country.

Description:

Prevention science focuses on the development of evidence-based strategies that reduce risk factors and enhance protective factors to improve the health and wellbeing of individuals, families, and communities. Prevention science draws from a diverse range of disciplines—including the epidemiological, social, psychological, behavioral, medical, and neurobiological sciences—to understand the determinants of societal, community and individual level problems (e.g., trauma, poverty, maltreatment). A central tenet of prevention science is the promotion of health equity and reduction of disparities by studying how social, economic and racial inequalities and discrimination influence healthy development and wellbeing. For well over 50 years, prevention science has generated practices and policies that have improved countless lives throughout the lifespan by avoiding negative health and social outcomes (e.g., addiction, academic failure, violence, mental illness) and strengthening conditions that enable individuals, families, and communities to thrive.

The policies, programs, and practices generated by the field have been shown to reduce the incidence and prevalence of individual and community vulnerabilities and to promote healthy lifestyles, including:

1) Promoting daily physical activity to protect against chronic disease;
2) Disrupting pathways to substance use, abuse and addiction across the lifespan;
3) Improving academic and behavioral outcomes with the expansion of high-quality childcare and early learning and development, and promoting positive and supportive school environments;
4) Enhancing community-wide capacity to attenuate detrimental conditions and increase access to supportive services;
5) Increasing resilience, social competency and self-regulation in order to reduce impulsive, aggressive and off-task behavior; and
6) Supporting the development of healthy relationships to reduce interpersonal and domestic violence.

Moreover, evidence-based prevention strategies that address systemic and structural inequalities in neighborhoods, educational, and criminal justice practices have been developed and implemented.

The application of well-tested practices, strategies and policies generated by prevention science canlead to substantial cost-savings by investing in upstream strategies to avoid downstream costs. Examples of these investments include programs that prevent drug use in adolescents, reform educational practices, and support families to reduce the financial and human burden to communities. An integrated delivery system of comprehensive evidence-based prevention strategies that crosses many public sectors (e.g. education, child welfare, juvenile justice, health) is most cost-efficient and exerts wide scale benefits. Providing scientifically-based guidance and resources to legislative and administrative decision-makers will facilitate the integration of best practices from prevention science into policy.

A wide range of effective, well-tested programs and policies are available to achieve these results. Moreover, the field continues to harness the potential for prevention science to improve lives on apopulation level by further expanding upon the evidence-base. The impact on individual lives, systems (e.g., schools, child welfare), communities, and society can increase exponentially with additional investment of resources and systems to support the development, evaluation, and implementation of evidence-based programs and policies.

NATIONAL PREVENTION SCIENCE COALITION TO IMPROVE LIVES

Weblinks

1. **The National Prevention Science Coalition to Improve Lives (NPSC)**

   www.npscoalition.org

   The NPSC envisions a society that fosters nurturing environments and caring relationships for the well-being of all. This page highlights the evidence-based productions and projects used to protect individuals and their societies, including recentpublications and congressional briefings.

2. **The Impact Center at the Frank Porter Graham (FPG) Child Development Institute**

   https://impact.fpg.unc.edu

   The Impact Center at the University of North Carolina at Chapel Hill focuses on how effective prevention strategies are implemented to improve the wellbeing of individualsup to large scale communities. The three focus areas include Implementation Support, Quality and Outcome Monitoring, and Media and Networking.

3. **Program for Translational Research on Adversity and Neurodevelopment**

   www.p-tran.com

   The Program for Translational Research on Adversity and Neurodevelopment at Pennsylvania State University uses a neuroscientific approach to understand, and therefore prevent, behavioral health issues. The goal of this program is to utilize appliedresearch to impact child development, families, and communities.

4. **The Coalition for the Promotion of Behavioral Health**

   https://www.coalitionforbehavioralhealth.org/training-modules/

   The Coalition for the Promotion of Behavioral Health offers four different training modules for students, professionals, and the public created by coalition members. Theseinclude: 1) Introduction to Prevention Theory and Concepts, 2) Direct Practice in Prevention, 3) Community Prevention Practice, and 4) Policy Prevention Practice.

5. **Life Skills Training Shields Teens From Prescription Opioid Misuse**

   https://archives.drugabuse.gov/news-events/nida-notes/2015/12/life-skills-training-shields-teens-prescription-opioid-misuse

   This article summarizes three intervention given to 7th grade students from the PROSPER prevention program (or PROmoting School-community-university Partnerships to Enhance Resilience): 1) Life Skills Training, 2) All Starts, and 3) Project Alert. This overview outlines findings from a four-year follow up, notably a decrease in the use of drugs and/or alcohol.

Substance Use Prevention Fundamentals Webinar:

Risk Factors in Substance Use

Diana Fishbein, PhD
Senior Scientist, Frank Porter Graham Child Development Institute
Co-Director, National Prevention Science Coalition to Improve Lives
Research Faculty, The Pennsylvania State University

Run of the show

- Public health model
- State of the science – what do we know?
  - A model for understanding impacts of environment on child and adolescent development and opportunities for intervention
  - SUD is a developmental disorder***
- Risk factors
  - Critical focus on adversity and inequality
  - Developmental aspects
- Practical implications
- Policy concerns

Quiz #1: Pre-Survey

Which TYPE of risk factor do you think is the single most influential in predicting substance use disorder in adolescence?

(1) Genetic susceptibility
(2) Neurobiological deficit
(3) Psychological traits
(4) Neighborhood
(5) Behavioral/conduct problems
(6) Mental illness
(7) Family dysfunction/harsh parenting
(8) Adverse experiences
(9) Deviant peers

What's behind the science of prevention?

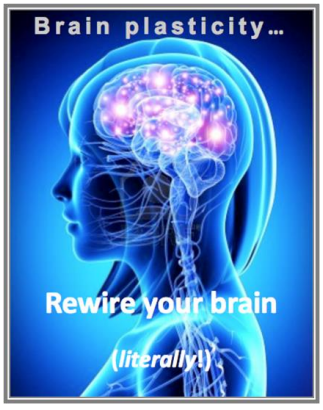
Prevention science seeks to interrupt pathways to negative outcomes, and improve the health and wellbeing of individuals and strengthen communities by:

1) Identifying risks that can be reduced and protective factors that can be strengthened;
2) Assessing effectiveness of programs and policies;
3) Determining best practices for implementation and scaling;
4) Developing an optimal means for dissemination and diffusion of that knowledge.

So what have we learned?

- Risk factors exert an impact throughout child and adolescent development across a number of domains.
- Problems with self-regulation underlie all risky behaviors.
- Adversity, stress and trauma are often root causes.
- Both the risk factors themselves (e.g., environment) and their negative impacts (e.g., dysregulation) are preventable if appropriately addressed.

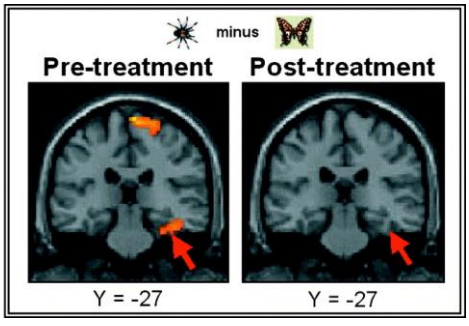
Recent advances in prevention science driven by research on the brain and behavior



- Brain regulatory systems critical to adolescent success begin to develop before age 11
- The brain is **plastic**, for better…
  - Emphasizes importance of nurturing caregivers and environments on brain development
  - Reveals neural systems that support healthy attachment, socialization, adaptive learning and self-regulation
- And for worse…
  - Establishes the negative impacts of ACEs on the brain, behavioral health and well-being.
- Demonstrates that well-timed, evidence-based strategies can enhance neural maturation, having an enduring impact on the developmental trajectory!

Exploiting Brain Plasticity for Preventative Purposes

- Targeted intervention can enhance neural maturation, having an enduring impact on the developmental trajectory
- Brain is most plastic and susceptible to lasting changes, before entrenchment
- Detection and disruption prior to first use is the goal, **but it's never too late!**



2

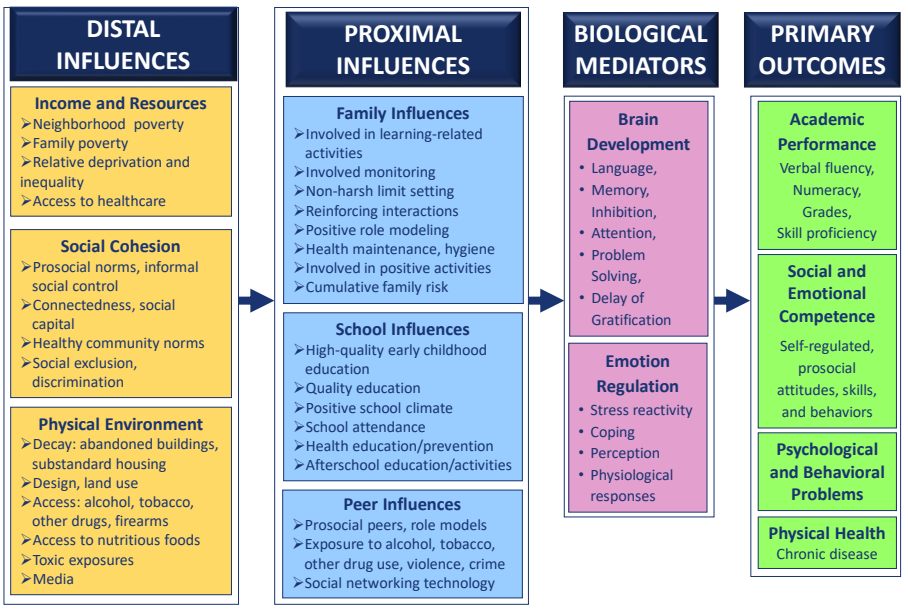
Statistical parametric map showing, in phobic subjects, significant activation of the right parahippocampal gyrus (BA 36) before CBT. No parahippocampal activation was found after CBT.

Risk Factors for SUD have been well known for decades…

Test for SUD Risk

- Does the **family have a history** of substance abuse, especially in a close relative, like a grandparent, parent or sibling?
- Growing up, did they have drugs or alcohol around that could be **easily accessed** or that was frequently offered to them?
- Do they have **friends or family that use drugs or alcohol**, especially those that use these substances in front of them and around them frequently?
- Did they grow up in an area of **poverty** or low SES?
- Do they have a history of **childhood trauma**, such as physical, mental, or sexual abuse?
- Growing up, were their **parents rarely around** and did they not provide much supervision, discipline or guidance?
- Do they have a **history of mental illness**, such as bipolar, borderline, depression, anxiety or schizophrenia?
- Do they have **post-traumatic stress disorder** due to something that happened in their lifetimes such as after serving in the military, experiencing a natural disorder, or childhood maltreatment?
- Are they experiencing a **significant transition** in their life, such as a divorce, loss of a loved one, loss of a job, or changing schools?
- Did they start using drugs or alcohol **before they were a teenager**?

Primary Developmental Outcomes and Their Proximal and Distal Influences



Developmental Pathways to Behavioral and Mental Wellness

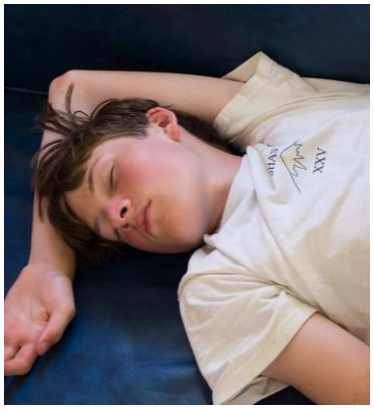
Each stage of development, from infancy to early adulthood, is associated with an expected range of:

- ✓ Intellectual ability
- ✓ Language development
- ✓ Cognitive control
- ✓ Social competency skills
- ✓ Self regulation

Developmental milestones must be met to reduce risk for behavioral and mental health problems, including substance abuse.

Brain Regulatory Systems Critical to Adolescent Success Begin to Develop Before Age 11

- Emotional control
- Social regulation
- Behavioral regulation
- Social rules
- Regulation of sleep and activation cycles
- Regulation of stress response



Infancy

Protective Traits, Skill Sets & Experiences:

- Responsiveness to the environment and caregivers' interactions
- Caregivers who are responsive
- Surroundings that provide stimulation
- Learning how to be effective in having needs met
- Easy to soothe
- Not temperamental

Early Childhood

Factors Predictive of Later Social Competence:

- Language
- Cooperation
- Control of emotions
- Collective conscience
- Social and emotional skills
- Perception of other's emotional states
- Problem solving

Middle Childhood

Emergent Executive Cognitive and Emotional Regulatory Functions:

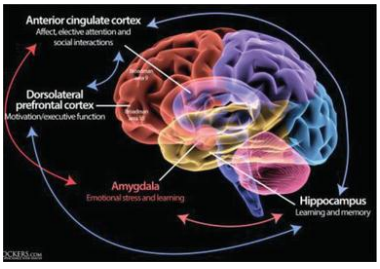
- Maintaining attention
- Controlling emotions
- Social inclusivity
- Effective communication
- Receptivity to others
- Accurate perception of emotion

Milestones in Adolescence

Skills integral to self-regulation of emotion and behavior to prepare for adulthood

- ✓ Social and emotional skills to establish stable relationships
- ✓ Sensitivity to feelings & needs of others
- ✓ Conflict resolution
- ✓ Prosocial skills
- ✓ Impulse control
- ✓ Decision making
- ✓ Problem solving

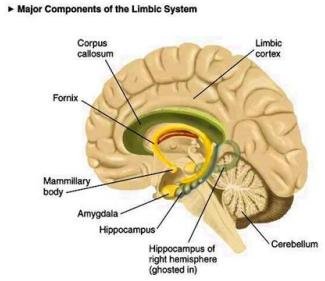
The brain is remodeled in adolescence!



Two important changes in brain function involving the prefrontal cortex:

- Patterns of activation within PFC generally become more focused.
- Activity in the PFC becomes increasingly coordinated with activity in other parts of the brain, especially limbic system

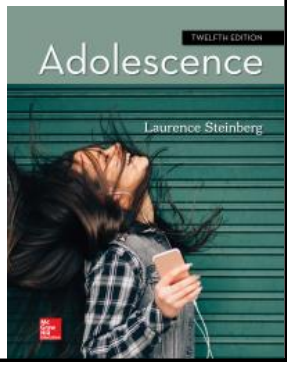
Supports cognitive control over emotional responses



Development of executive functions is a protracted process!

- They begin to form in early childhood and coalesce in late 20s
- Based on development of the prefrontal cortex (PFC)
- PFC, in turn, regulates regions responsible for processing emotion and reacting to stress (limbic system)
  - Poor PFC control over limbic regions increase rewarding aspects of novelty seeking behaviors and addictive properties of drugs
- ECF integrity thus forms the basis for behavioral and emotional self-regulation

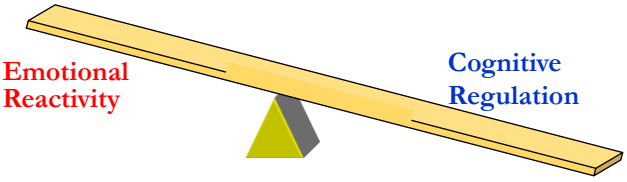
https://www.youtube.com/watch?v=A9MWpLIT3Mo

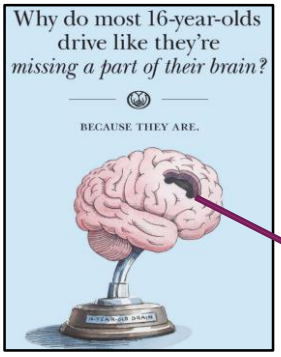


The "Imbalanced" Adolescent Brain

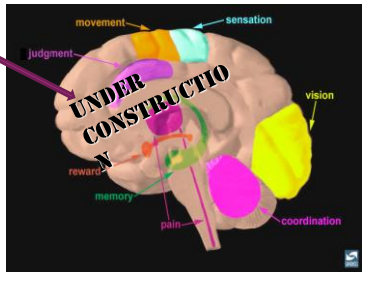
- Emotional responses are heightened
- Cognitive controls are immature

Double Jeopardy!





And this is *normative!*



Quiz #2: Do you believe that after adolescence, people are more or less who they are going to be for the rest of their lives?

YES ____

NO ____

Some Generalizations about Adolescence

- Adolescents do not generally develop serious psychological or social problems.
- Most problems reflect transitory experimentation.
- Not all problems begin in adolescence.
- Most problems do not persist into adulthood.
- Serious problems during adolescence are not caused by the normative changes.

So what happens when conditions are not normative?

The signs of poor self-regulation due to deficits and delays vary as a function of developmental stage:

- In younger children: language delays, poor school readiness and academic achievement, conduct problems, negative affect, insensitivity to consequences, and impulsivity
- In late childhood and early adolescence: aggression, sensation-seeking, delinquency, negative affect, and poor decision making and coping skills

➢ ***Detrimental environmental conditions further compromise brain development and increase risk for SUD***

And what conditions or experiences can cause dysregulation – aka disconnection – between cognitive and emotion systems beyond what is normative?

Specific SUD Vulnerability Factors

Individual level factors
- Mental health problems
- Conduct problems, including externalizing behaviors and eventual delinquency and criminal activity
- Academic failure

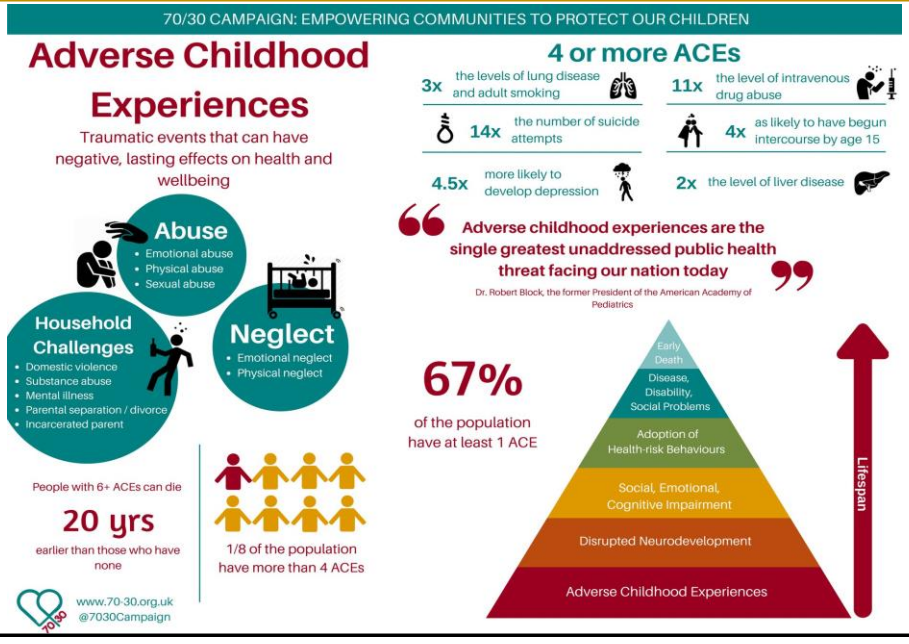
Environmental conditions
- Poverty
- Environmental toxins
- Lack of opportunity
- Homelessness
- Poor neighborhood conditions
- Marketing of harmful products

Stress and adversity
- Child maltreatment
- Isolation/deprivation
- Racism, discrimination, inequality

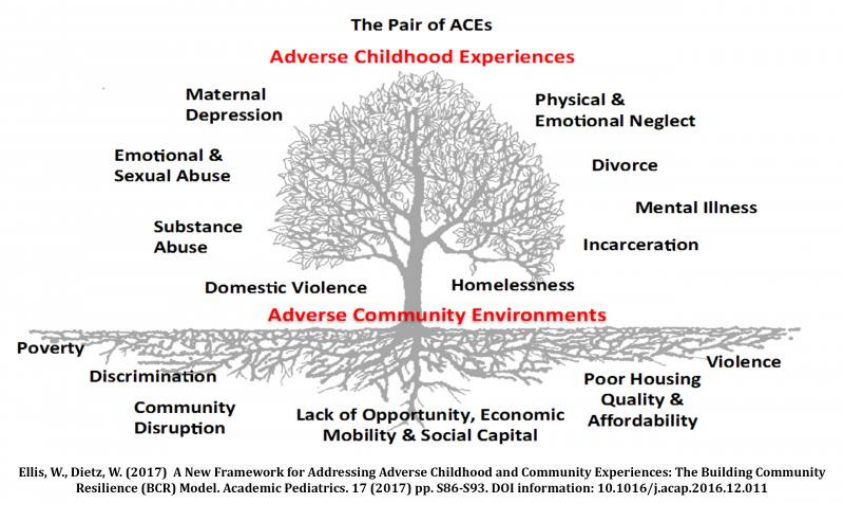
Stress and trauma predicts early onset, escalation of drug use, relapse, and treatment resistance.

Personal experiences
- Lack of parental involvement, supervision and social supports
- Parental mental illness, substance dependence, incarceration
- Negative peer influences; e.g., deviance, substance use
- Poorly equipped school systems

And also substance use!



Community Matters

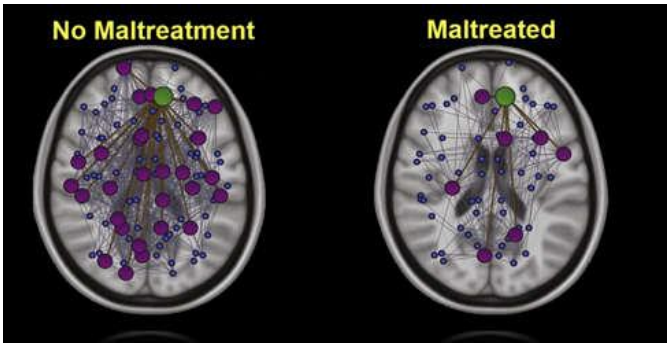


Ellis, W., Dietz, W. (2017) A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience (BCR) Model. Academic Pediatrics. 17 (2017) pp. S86-S93. DOI information: 10.1016/j.acap.2016.12.011

Quiz #3: Trauma "gets under the skin" to affect brain development through changes in:

1) Hormone release
2) Functioning of the heart
3) Psychological state
4) Relationships
5) None of the above
6) All of the above

Child Maltreatment and the Developing Brain



Teicher et al., 2016

Chronic stress primes the brain for risky behavior and SUD

- Stress activates the ***same brain [reward] systems*** responsible for the positive reinforcing effect of drugs
  - Damages and causes further delays to the brain & ECFs
  - Disengages coping mechanisms and decision making abilities
  - Increases physiological sensitivity to drugs
  - Increases desire to improve mood with drugs after exposure to stress
- Stress more strongly predicts drug use when there is a mental health disorder, poor parenting, family dysfunction, and adverse neighborhood characteristics.

Predicts early onset and escalation of drug use, relapse, and treatment resistance.

Poverty as a Distal Influence

High Rates of:

- Single-parent families
- Racial segregation
- Inequality
- Homelessness
- Transiency
- Child abuse
- Infant mortality
- Poorly equipped schools and teachers
- Food deserts
- Liquor and tobacco stores

Poverty on a Proximal Level

Harms child and youth development in four ways:

(1) Increases caregiver stress
- Less able to attend to basic and emotional needs of the child
- Child maltreatment, neglect, domestic violence

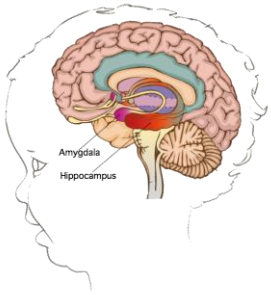
(2) Reduces investments in learning & educational opportunities

(3) Compromises ability to be involved, patient, responsive and nurturing
- Caregiving environment more disorganized and lacking in appropriate stimulation and support

(4) Creates conditions that are stressful for children
- Interferes with growth, ability to respond adaptively to stress, development of psychological health and self-regulatory skills

Poverty > Experience > Brain Structure/Function > Executive Function/Emotion > Behavior

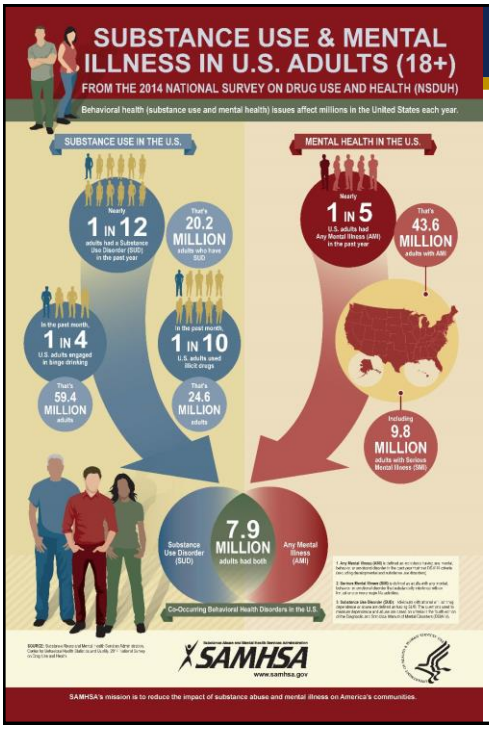
Poverty has been shown to decrease the size of the Hippocampus and Amygdala in children.



The Hippocampus and Amygdala help regulate stress and emotional processing

JAMA Pediatrics, December 2013

Role of Mental Health in SUDs



A combined 63.8 million adults 18 and older in the United States had either a substance use disorder or a mental illness in the past year.

One in 12 adults had a substance use disorder and 1 in 5 adults had a mental illness in the past year.

About 12% of these adults (7.9 million) experienced both a substance use disorder and a mental health issue.

This is known as having a co-occurring behavioral health disorder.

Link Between Mental Health and SUD

Internalizing Disorders: PTSD, Depression, Anxiety disorders, Bipolar disorder

- Tendency to self-medicate the anxiety & depression this process causes

Externalizing Disorders: CD, ADHD, ODD, ASPD

- Low level of arousal in these disorders is related to an insensitivity to consequences and a need for more stimulation.
- Heightens risk for continued drug use to relieve symptoms
- **Tend to be resistant to SUD treatment**

Why do Mental Illnesses and Substance Abuse Co-occur?

- **Self-medication**
  - Substance abuse begins as a means to alleviate symptoms of mental illness
- **Causal effects**
  - Substance abuse may increase vulnerability to mental illness
- **Common or correlated causes**
  - The risk factors that give rise to mental illness and substance abuse may be related or overlap

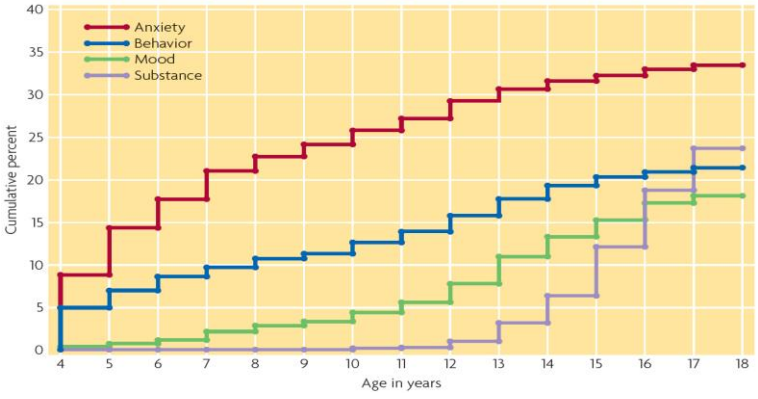
60% of adolescents in addiction treatment programs also have a mental illness

50% of those with BPD report a history of abusing prescription medications

59% of young people with PTSD develop a substance use disorder

Problems Emerge in Adolescence

- Anxiety symptoms and behavioral disorders typically begin during childhood
  - Even kindergarten children rated high in anxiety and novelty seeking more likely to get drunk, smoke, and use drugs in adolescence
- Mood disorders and substance abuse first appear during adolescence.



Post-Survey

Which TYPE of risk factor do you think is the single most influential in predicting substance use disorder in adolescence?

(1) Genetic susceptibility
(2) Neurobiological deficit
(3) Psychological traits
(4) Neighborhood
(5) Behavioral/conduct problems
(6) Mental illness
(7) Family dysfunction/harsh parenting
(8) Adverse experiences
(9) Deviant peers

Rehash: Primary Risk Factors

- **Individual level factors**
  - Mental health problems
  - Conduct problems, including externalizing behaviors and eventual delinquency and criminal activity
  - Academic failure
- **Environmental conditions**
  - Poverty
  - Environmental toxins
  - Lack of opportunity
  - Homelessness
  - Poor neighborhood conditions
  - Marketing of harmful products
- **Stress and adversity**
  - Child maltreatment
  - Isolation/deprivation
  - Racism, discrimination, inequality
- **Personal experiences**
  - Lack of parental involvement, supervision and social supports
  - Parental mental illness, substance dependence, incarceration
  - Negative peer influences; e.g., deviance, substance use
  - Poorly equipped school systems

Prevention is Timeless

- ✓ Even very young children can manifest early signs of future mental, emotional, and behavioral disorders that increase risk for later SUD.
- ✓ Conditions within and surrounding the caregiving environment are key determinants of health outcomes.
- ✓ We know how to prevent, monitor, and treat the full range of most individual and environmental problems to ensure children reach their highest potential.
- ✓ Individual, family, school and community interventions, as well as policies, work!
- ✓ In all cases and ages, an enriched environment, external supports, and high quality education is essential.

Questions?

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- Luby J, Belden A, Botteron K, et al. The Effects of Poverty on Childhood Brain Development: The Mediating Effect of Caregiving and Stressful Life Events. *JAMA Pediatr.* 2013;167(12):1135–1142. doi:10.1001/jamapediatrics.2013.3139
- Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. The CBHSQ Report: Substance Use and Mental Health Estimates from the 2013 National Survey on Drug Use and Health: Overview of Findings. Rockville, MD.
- Teicher MH, Samson JA, Anderson CM, Ohashi K. The effects of childhood maltreatment on brain structure, function and connectivity. Nat Rev Neurosci. 2016 Sep 19;17(10):652-66. doi: 10.1038/nrn.2016.111. PMID: 27640984.

Risk Factors in Substance Use:

Resources Recommended by the Presenter

Topic	Resources
Rose, E. J., Picci, G., & Fishbein, D. H. (2019). Neurocognitive Precursors of Substance Misuse Corresponding to Risk, Resistance, and Resilience Pathways: Implications for Prevention Science. Frontiers in psychiatry, 10, 399.	https://www.frontiersin.org/articles/10.3389/fpsyt.2019.00399/full
United Nations World Drug Report 2018: Book 4 - Drugs & Age	https://www.unodc.org/wdr2018/prelaunch/WDR18_Booklet_4_YOUTH.pdf
Sloboda, Z., Petras, H., Robertson, E. B., & Hingson, R. (Eds.). (2019). Prevention of Substance Use. Springer.	https://link.springer.com/content/pdf/10.1007%2F978-3-030-00627-3.pdf

Additional Risk Factors in Substance Use Web Resources

Organization	Resources
National Institute on Drug Abuse (NIDA)	"Principles of Substance Abuse Prevention for Early Childhood. Chapter 2: Risk and Protective Factors." - https://www.drugabuse.gov/sites/default/files/early_childhood_prevention_march_2016.pdf "Preventing Drug Use among Children and Adolescents (In Brief). Chapter 2: What are Risk Factors and Protective Factors?" - https://www.drugabuse.gov/sites/default/files/preventingdruguse_2_1.pdf
Youth.Gov	"Substance Abuse Prevention: Risk & Protective Factors." - https://youth.gov/youth-topics/risk-and-protective-factors
Substance Abuse & Mental Health Services Administration (SAMHSA)	"Risk and Protective Factors" - https://www.samhsa.gov/sites/default/files/20190718-samhsa-risk-protective-factors.pdf
United Nations	"United Nations World Drug Report 2020. Booklet 5." - https://wdr.unodc.org/wdr2020/en/socioeconomic.html