



The Role of Adverse Childhood Experiences (ACEs) and Addiction




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The Role of Adverse Childhood Experiences (ACEs) and Addiction

According to ACEs research two-thirds of the population have experienced at least adverse childhood experience which can double or quadruple the likelihood of using drugs or alcohol, especially at a young age. Having an ACE score of 4 or more increases the odds of becoming an alcoholic by 700%. People with an ACE score of 5 or more are 7 to 10 times more likely to using illicit drugs and become addicted.

Addiction: "ritualized compulsive comfort-seeking behaviors" are adopted when children experience trauma and are not provided with buffering interventions including healthy alternatives to healing.

This training will provide insight into the original ACE Study which intended to present "findings only as they relate to the problem of addiction, using nicotine, alcohol, and injected illicit drugs as examples of substances that are commonly viewed as 'addicting'" as well as exploring ways to intervene and interrupt addiction behaviors.

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Objectives

Identify and understand

Identify and understand the initial role of the ACE Study as it relates to addiction and long-term health.

↓

Define

Define addiction and the link between stress, mental health, suicide and substance use.

↓

Give

Provide examples of current addiction rates for adolescents.

↓

Analyze

Analyze the impact of parental addiction on children.

↓

Understand

Understand methods of sharing information and resources.

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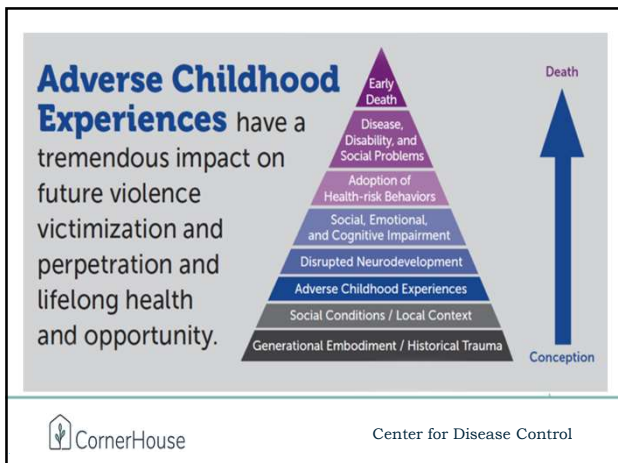
ACE Score Results

ACE Category		Women (N=9,367)	Men (N=7,970)	Total (N=17,337)
Abuse	Emotional Abuse	13.1	7.6	10.6
	Physical Abuse	27.0	29.9	28.3
	Sexual Abuse	24.7	16.0	20.7
Neglect	Emotional Neglect	16.7	12.4	14.8
	Physical Neglect	9.2	10.7	9.9
Household Dysfunction	Mother Treated Violently	13.7	11.5	12.7
	Household Substance Abuse	29.5	23.8	26.9
	Household Mental Illness	23.3	14.8	19.4
	Parental Separation or Divorce	24.5	21.8	23.3
	Incarcerated Household Member	5.2	4.1	4.7

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Center for Disease Control and Prevention, 2014

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Adverse

- In a negative way
- In the opposite direction
- Working against a person's best interest
- Contrary to your welfare

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Stress / Stressors

POSITIVE Brief increases in heart rate, mild elevations in stress hormone levels.

TOLERABLE Serious, temporary stress responses, buffered by supportive relationships.

TOXIC Prolonged activation of stress response systems in the absence of protective relationships.

CornerHouse Center for the Developing Child Harvard University

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What Is Trauma?

- Individual trauma results from:
 - an **event**
 - series of events or
 - set of circumstances
- that is **experienced** by an individual as:
 - physically or
 - emotionally harmful or
 - life threatening
- and that has lasting adverse **effects** on the individual's:
 - functioning and
 - mental, physical, social, emotional, or spiritual well-being.

CornerHouse Substance Abuse and Mental Health Services Administration, 2014. <http://store.samhsa.gov/shin/content/SMA14-4884/SMA14-4884.pdf>

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Mitigate

- Make less severe, serious or painful
- Lessen the gravity of
 - Alleviate, ease, buffer, soften, reduce, soothe, relieve, calm

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What is Happening?

- Increased Stress
- Reduced Resiliency
- Lack of Coping Skills/Tools
- Access to “Harm”

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Risks of Covid/Escalators

- Domestic Violence
- Child Abuse
- Parental Separation (Isolation)
- Death
- Substance Use/Abuse
- Mental Health Concerns



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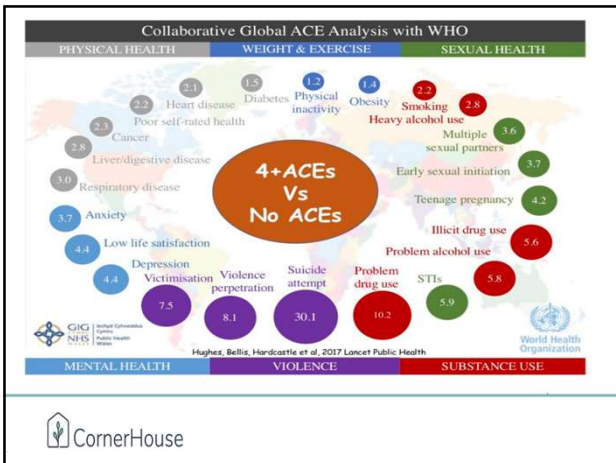
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<p>• Original ACEs</p> <ul style="list-style-type: none"> • Abuse <ul style="list-style-type: none"> • Physical • Sexual • Emotional • Neglect <ul style="list-style-type: none"> • Physical • Emotional • Household Dysfunction <ul style="list-style-type: none"> • Witness DV • Mental Illness • Substance Abuse • Incarcerated Parent • Parental Separation/Divorce 	<p>• Additional ACEs</p> <ul style="list-style-type: none"> • Poverty • CPS Involvement • Foster Care • Juvenile Justice • Truancy • Homelessness • Community Violence • Bullying • Racism, Discrimination • Historical Trauma • Generational Trauma • Immigration, Deportation • Runaway, Throwaway • Trafficking • Changing schools many times
	

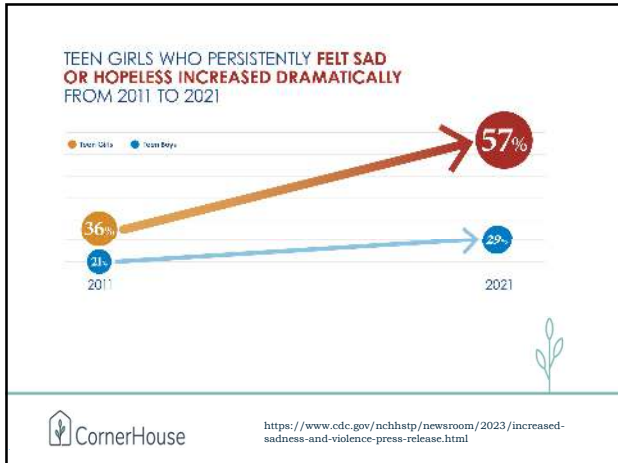
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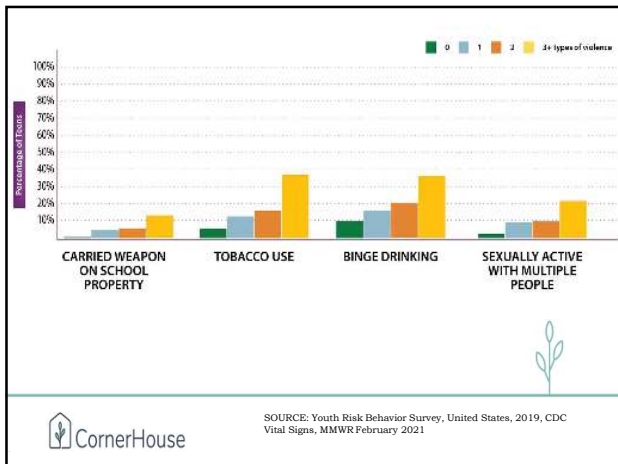
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**The Origins of Addiction
Evidence from the Adverse Childhood Experiences Study
Dr. Vincent Felitti 2003**

Purpose:
My intent is to challenge the usual concept of addiction with new evidence from a population-based clinical study of over 17,000 adult, middle-class Americans. The usual concept of addiction essentially states that the compulsive use of 'addictive' substances is in some way caused by properties intrinsic to their molecular structure. This view confuses mechanism with cause. Because any accepted explanation of addiction has social, medical, therapeutic, and legal implications, the way one understands addiction is important. Confusing mechanism with basic cause quickly leads one down a path that is misleading. Here, new data is presented to stimulate rethinking the basis of addiction.

<https://attacherandforherfor.com/wp-content/uploads/2014/02/Felitti-VI-Origins-of-Addiction-Evidence-ACF-Study-2003.pdf>


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The Origins of Addiction Evidence from the Adverse Childhood Experiences Study

Dr. Vincent Felitti 2003

addicting, or do life experiences actually determine its compulsive use? Surely its chemical structure remains constant. Our findings indicate that the major factor underlying addiction is adverse childhood experiences that have not healed with time and that are overwhelmingly concealed from awareness by shame, secrecy, and social taboo. The compulsive user appears to be one who, not having other resolutions available, unconsciously seeks relief by using materials with known psychoactive benefit, accepting the known long-term risk of injecting illicit, impure chemicals. The ACE Study provides population-based clinical evidence that unrecognized adverse childhood experiences are a major, if not the major, determinant of who turns to psychoactive materials and becomes 'addicted'.

<https://attachmentdisorderhealing.com/wp-content/uploads/2014/02/091011-VI-Origins-of-Addiction-Evidence-Dr-ACE-Study-2003.pdf>



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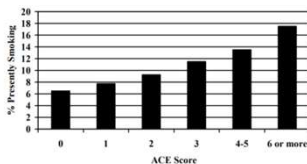
Probability of Outcomes 100 Adults

• Central Iowa ACEs 360, 2016

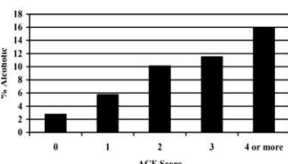
33 No ACEs	51 1-3 ACEs	16 4-8 ACEs
1 in 16 smokes	1 in 9 smokes	1 in 6 smokes
1 in 69 are alcoholic	1 in 9 are alcoholic	1 in 6 are alcoholic
1 in 480 use IV drugs	1 in 43 use IV drugs	1 in 30 use IV drugs
1 in 14 has heart disease	1 in 7 has heart disease	1 in 6 has heart disease
1 in 96 attempts suicide	1 in 10 attempts suicide	1 in 5 attempts suicide

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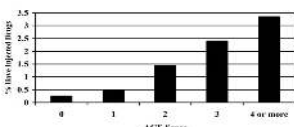
ACE Score vs. Smoking




ACE Score vs. Adult Alcoholism



ACE Score vs. Injected Drug Use





Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-252.

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THE ACE STUDY
 & WHAT IT TELLS US ABOUT ADDICTION

64%
 percent of adults have faced one adverse childhood experience (ACE)


40%
 have faced two or more adverse childhood experiences

ACEs affect brain development, increasing the likelihood of cognitive defects and mental disorder.

A person with four or more ACEs is **5 TIMES MORE LIKELY** to develop substance use disorder

A boy with four or more ACEs is **46 TIMES MORE LIKELY** to become an IV drug user in later life

Source: Centers for Disease Control & Prevention-Kaiser ACE Study.

 Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.

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Addiction

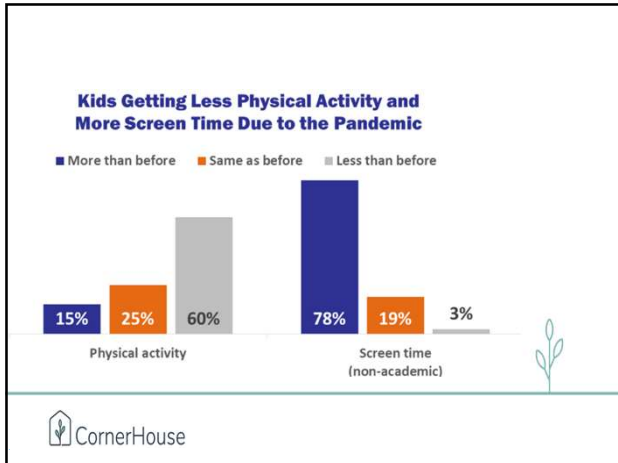
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Addiction

- **Chemical addiction.** This refers to addiction that involves the use of substances.
- **Behavioral addiction.** This refers to addiction that involves compulsive behaviors. These are persistent, repeated behaviors that you carry out even if they don't offer any real benefit.



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Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.

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Non-Technical Definition of Addiction

Ritualized compulsive comfort-seeking

Addiction is a disease that tries to convince you that you don't have it.

Family Rules of Addiction: Don't Talk/Don't Trust/Don't Feel


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ADDICTION BEGINS WITH THE HOPE
THAT SOMETHING ‘OUT THERE’
CAN INSTANTLY FILL UP
THE EMPTINESS INSIDE

JEAN KILBOURNE



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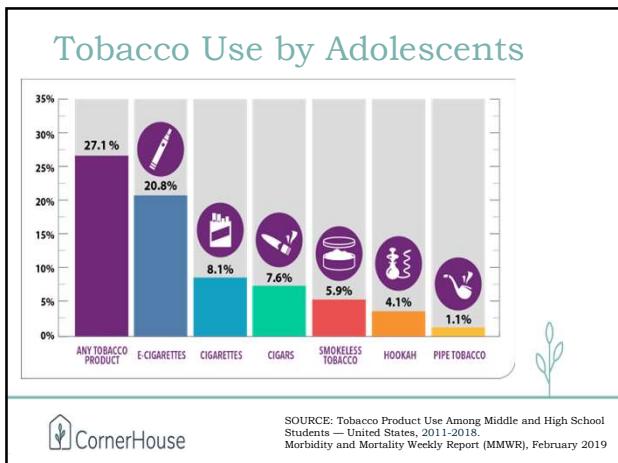
“

FIRST YOU TAKE A DRINK,
THEN THE DRINK TAKES A DRINK,
THEN THE DRINK TAKES YOU

FRANCIS SCOTT KEY FITZGERALD



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One Nation Under Stress

- *In the 1960's, life expectancy was the highest.*
- *In the last 3 years, life expectancy has decreased*
- *US life expectancy is one of the lowest of 1st world nations*

• **Deaths of Despair**

- *Drug Overdose*
- *Suicide*
- *Cirrhosis of the Liver*
- *Enough people have died from "deaths of despair" to impact life expectancy*

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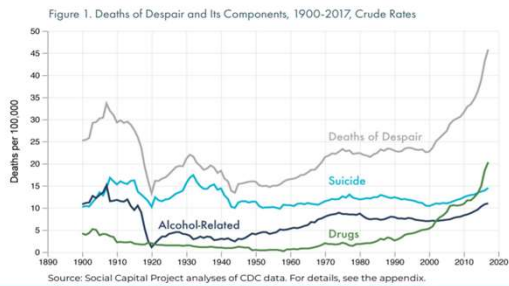
One Nation Under Stress

- 50 deaths per day prescription overdose
- US prescribes more drugs than any other country
- Greensburg, PA/ Westmoreland Co:
- Medical examiner 2017 556 deaths/300+ drugs
- Drugs to cope/Don't want to suffer
- "I know I am taking more (pills) than I should. Maybe I should just take them all and go to sleep"
- 2017: More people died by suicide w/ handgun than homicides w/ handgun

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DEATHS OF DESPAIR

Figure 1 displays trends in crude death rates going back to 1900.³ Mortality from deaths of despair fell dramatically between 1907 and 1920, rose during the 1920s,



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National Library of Medicine

PubMed

Changes in all-cause and cause-specific mortality during the first year of the COVID-19 pandemic in Minnesota: population-based study

McCoy RG, Campbell RL, Mullan AF, Bucks CM, Clements CM, Reichard RR, Jeffery MM, et al. BMC Public Health. 2022 Dec 7;22(1):2291. doi: 10.1186/s12889-022-14743-z. PMID: 36474190; PMCID: PMC9727873.

Abstract

Background: The COVID-19 pandemic resulted in unprecedented increases in mortality in the US, and worldwide. To better understand the impact of the COVID-19 pandemic on mortality in the state of Minnesota, U.S.A., we characterized the changes in the causes of death during 2020 (COVID-19 period), compared to 2016-2019 (baseline period), assessing for differences across ages, sexes, education, race, and geographic characteristics.

Researchers identified a 68% increase in assault by firearms, a 49% increase in accidental poisonings, a 48% increase in malnutrition and a 25% increase in liver disease.

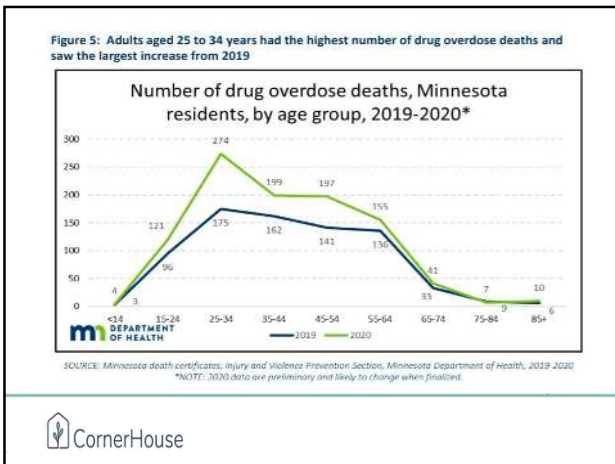


McCoy RG, Campbell RL, Mullan AF, Bucks CM, Clements CM, Reichard RR, Jeffery MM. Changes in all-cause and cause-specific mortality during the first year of the COVID-19 pandemic in Minnesota: population-based study. BMC Public Health. 2022 Dec 7;22(1):2291. doi: 10.1186/s12889-022-14743-z. PMID: 36474190; PMCID: PMC9727873.

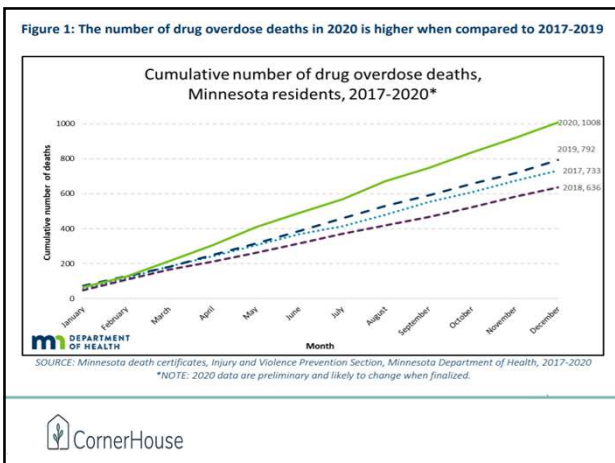
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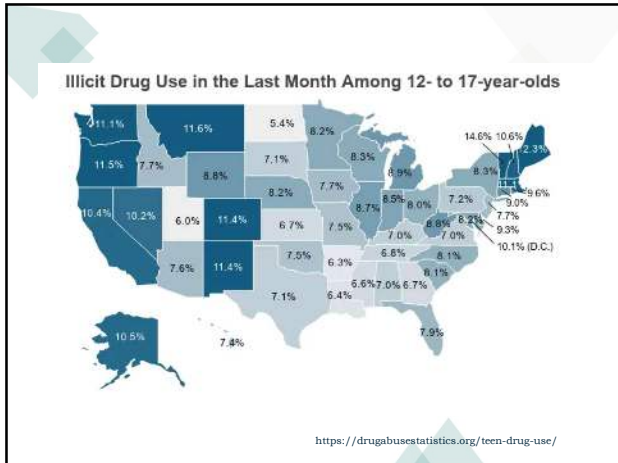
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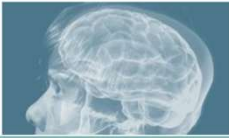
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The Teenage Brain and Substances UNIQUE VULNERABILITIES

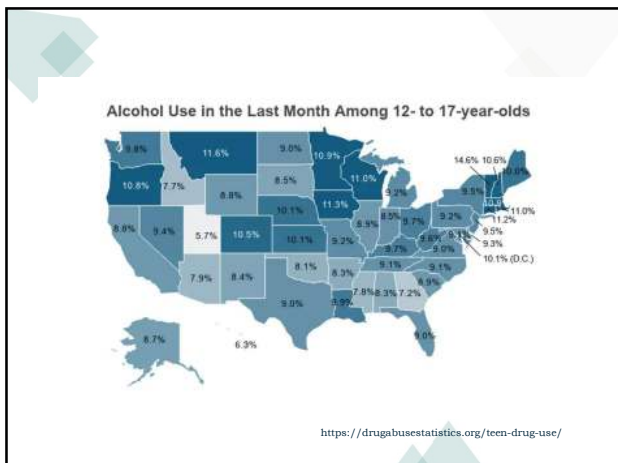
- These connections are intended to be formed **without the presence of alcohol or other drugs.**
- **A brain in transition from child to adult is more vulnerable to addiction.**
- **Delayed use is critical to protection.**



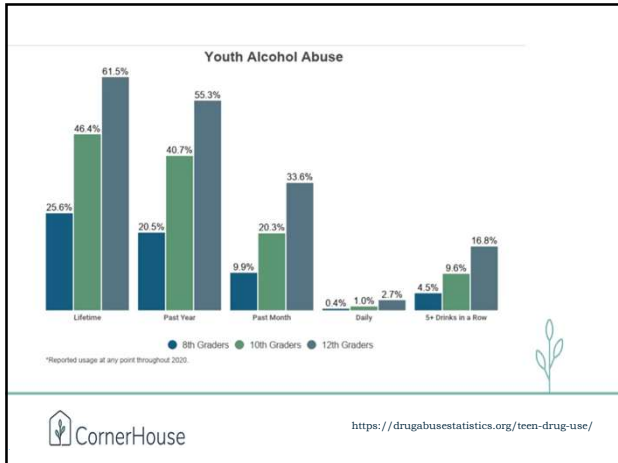
Hazelden Betty Ford Foundation FCD Prevention Works

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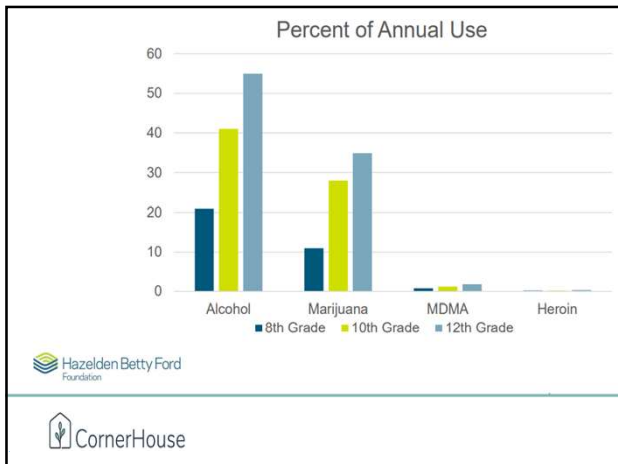
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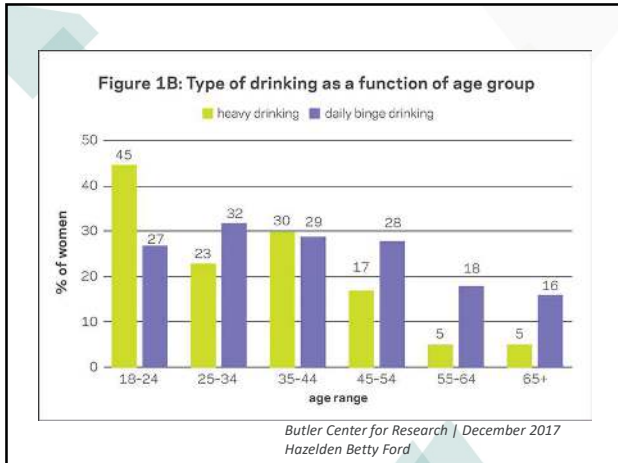
Resources for Females

www.stephanicovington.com

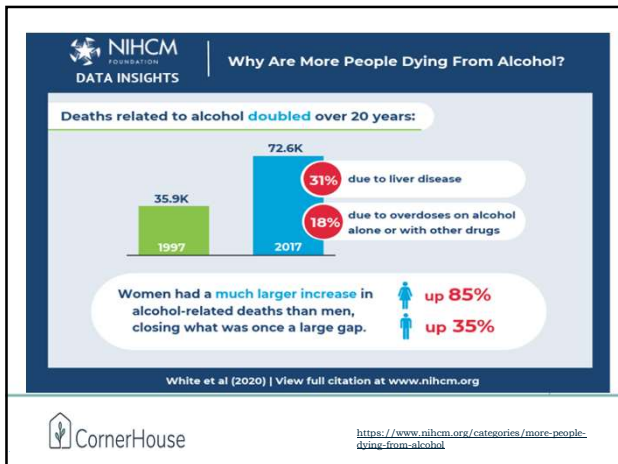
"The Intimate Relationship Between Women and Alcohol, award-winning journalist Anne Dowsett Johnston combines in-depth research with her own personal story of recovery and delivers a groundbreaking examination of a shocking yet little recognized epidemic threatening society today: the precipitous rise in risky drinking among women and girls."

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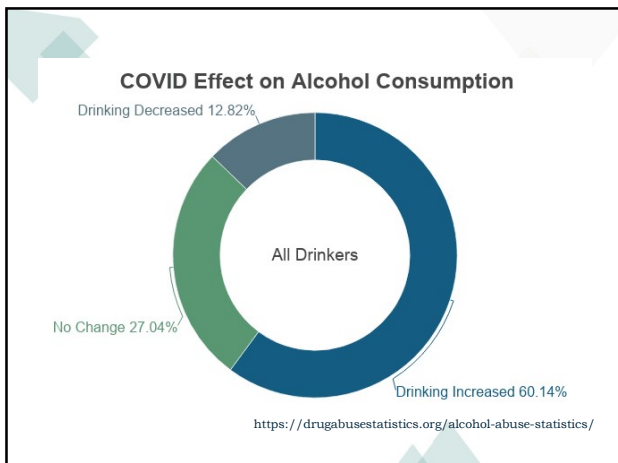
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LET'S TALK ABOUT IT



<https://www.choc.org/mental-health/lets-talk-about-it/>

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PHYSICIAN RISKY BEHAVIOR CHECKLIST (PHQ-9)

DATE: _____

SCORE: _____


QUESTION	NEVER	SOME	MUCH	VERY MUCH
1. Lost interest in doing things	0	1	2	3
2. Feeling tired or having low energy	0	1	2	3
3. Trouble falling asleep, staying asleep, or waking up too early	0	1	2	3
4. Not feeling like yourself	0	1	2	3
5. Trouble concentrating	0	1	2	3
6. Thoughts of harming yourself or others	0	1	2	3
7. Thoughts of suicide or death	0	1	2	3
8. Thoughts of suicide or death (continued)	0	1	2	3

PHYSICIAN RISKY BEHAVIOR CHECKLIST (PHQ-9) - TOTAL SCORE

0-4: No symptoms
5-9: Mild symptoms
10-14: Moderate symptoms
15-19: Severe symptoms
20-27: Very severe symptoms

PHYSICIAN RISKY BEHAVIOR CHECKLIST (PHQ-9) - TOTAL SCORE

0-4: No symptoms
5-9: Mild symptoms
10-14: Moderate symptoms
15-19: Severe symptoms
20-27: Very severe symptoms




http://www.cqaimh.org/pdf/tool_phq9.pdf

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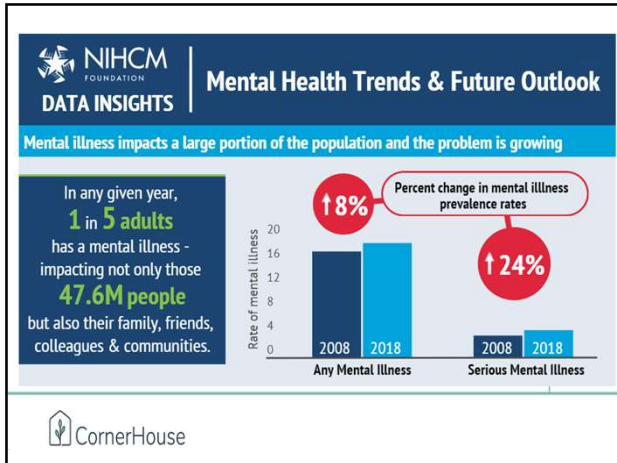
Signs and Symptoms

Stress Warning Signs and Symptoms

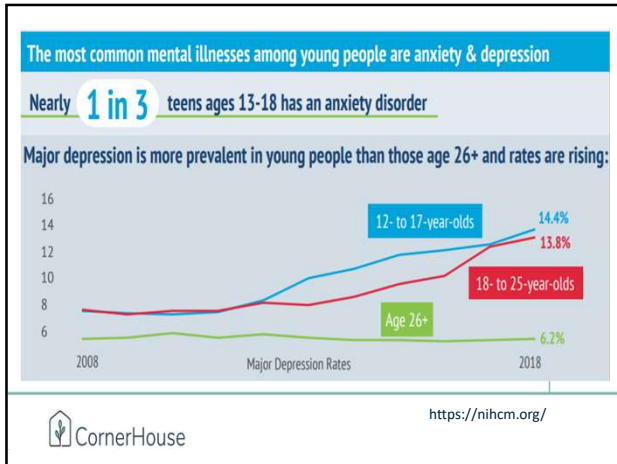
Cognitive Symptoms	Emotional Symptoms
<ul style="list-style-type: none"> Memory problems Inability to concentrate Poor judgement Seeing only the negative Anxious or racing thoughts Constant worrying 	<ul style="list-style-type: none"> Moodiness Irritability or short temper Agitation, inability to relax Feeling overwhelmed Sense of loneliness and isolation Depression or general unhappiness
Physical Symptoms	Behavioral Symptoms
<ul style="list-style-type: none"> Aches and pains Diarrhea or constipation Nausea, dizziness Chest pain, rapid heartbeat Loss of sex drive Frequent colds 	<ul style="list-style-type: none"> Eating more or less Sleeping too much or too little Isolating yourself from others Procrastinating or neglecting responsibilities Using alcohol, cigarettes, or drugs to relax Nervous habits (e.g., nail biting, pacing)



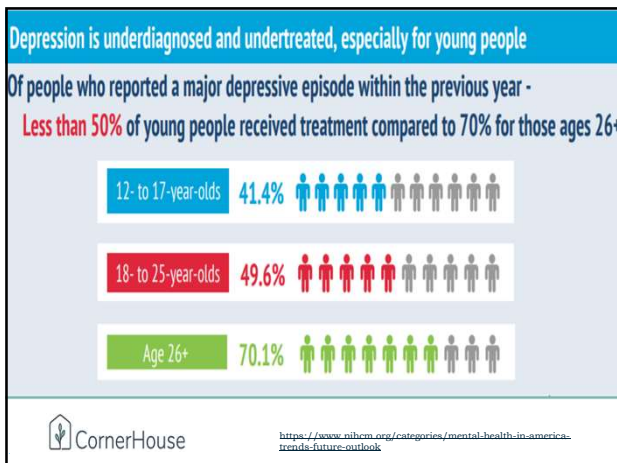
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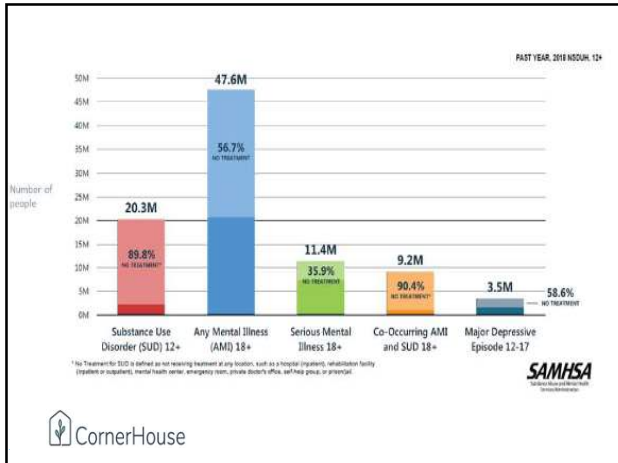
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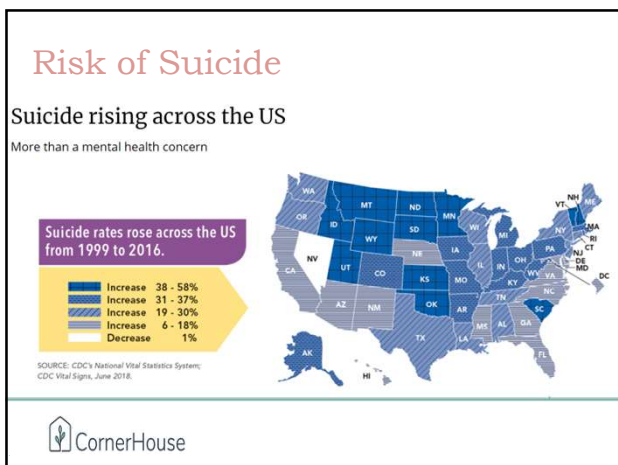
Language of Suicide

Understanding the Language of Suicide

Avoid	Use Instead
Committed suicide	Died by suicide
Suicide victim	Person who died by suicide
Successful attempt	Attempt or completion

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How Are the Children?

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Dysregulation/Impact of Stress

9-24 Months
Anxiously attached to caregiver, steep decline in intellectual functioning

24 to 42 Months
Noncompliant, unhappy, lacking in persistence, displaying little positive affect, and scoring lower than non-maltreated infants on developmental exam

Preschool
Negativistic, impulsive, and highly dependent on teachers, nervous, and displaying self-abusive behavior

Elementary School
Ranked by teachers to be low in peer acceptance and overall emotional health, more aggressive than peers and performing significantly worse on achievement tests

Teen Years
Higher number of social problems, more delinquent, more aggressive, and more suicidal than peers. Majority with at least two psychiatric disorders

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NEWBORN VICTIMS OF THE OPIOID EPIDEMIC

Year	Number of Victims (Approximate)
2008	8,000
2009	10,000
2010	12,000
2011	14,000
2012	16,000
2013	18,000
2014	20,000
2015	22,000
2016	24,000

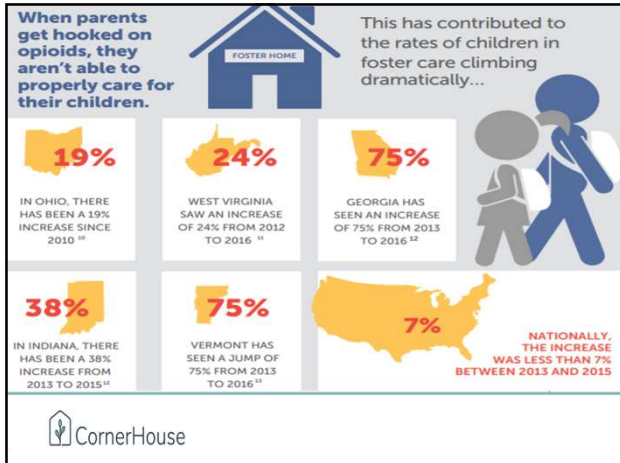
Source: AHRQ HCUP State Inpatient Databases
McQueen, NEJM 2016

Office of the Assistant Secretary for Health

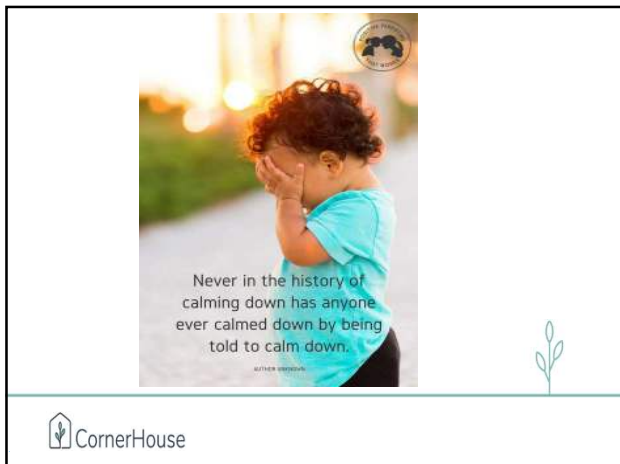
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- Outcomes in the fetus**
 - Growth restriction
 - Prematurity
 - Death
- Outcomes in the Newborn**
 - Low birthweight
 - Small head circumference
 - Neonatal abstinence syndrome
- Outcomes in the Child**
 - Developmental disorders

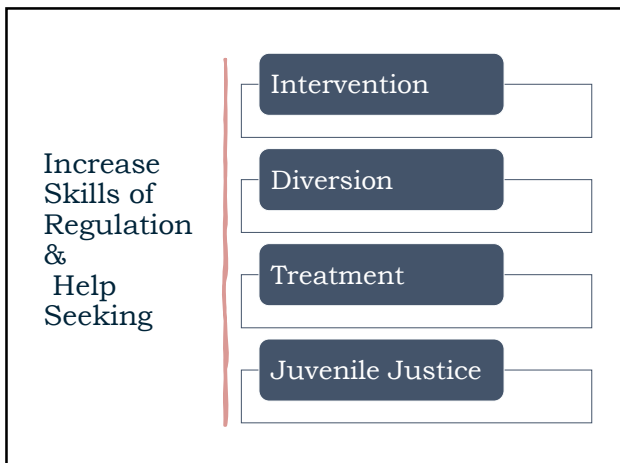
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Positive Childhood Experiences

- Below are the 7 items on the positive childhood experience (PCE) psychometric analysis. For each item, respondents are asked to respond "yes" or "no" to a prompt, "Before the age of 18, I ..."

 - Was able to talk to my family about my feelings
 - Felt that my family stood by me during difficult times
 - Enjoyed participating in community traditions
 - Felt a sense of belonging in high school
 - Felt supported by friends
 - Had at least 2 non-parent adults who took a genuine interest in me
 - Felt safe and protected by an adult in my home

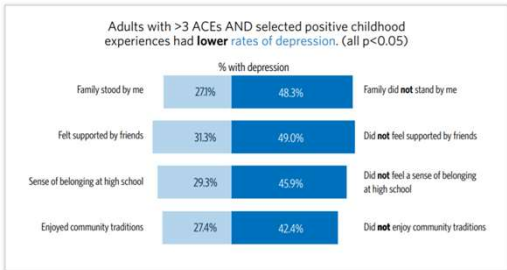
 - How many times did you answer "yes"?
 - The higher the score, the more positive childhood experiences you had based on this psychometric analysis.



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PCEs and Mental Health

Adults with >3 ACEs AND selected positive childhood experiences had **lower** rates of depression. (all p<0.05)



PCE	% with depression	% did not
Family stood by me	27%	48%
Felt supported by friends	31%	49%
Sense of belonging at high school	29%	45%
Enjoyed community traditions	27%	42%

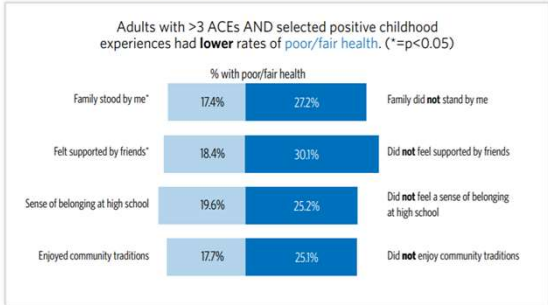
Source: Jones, J., Bethell, C.D., Linkenbach, J. & Sege, R. (2017). Health effects of ACEs mitigated by positive childhood experiences. (manuscript in preparation).¹⁴



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FIGURE 5. FACTORS THAT MODERATE THE EFFECTS OF MORE THAN 3 ACEs ON ADULT HEALTH

Adults with >3 ACEs AND selected positive childhood experiences had **lower** rates of poor/fair health. (*=p<0.05)



PCE	% with poor/fair health	% did not
Family stood by me*	17%	27%
Felt supported by friends*	18%	30%
Sense of belonging at high school	19%	25%
Enjoyed community traditions	17%	25%

Source: Jones, J., Bethell, C.D., Linkenbach, J. & Sege, R. (2017). Health effects of ACEs mitigated by positive childhood experiences. (manuscript in preparation).¹⁴



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Self-Regulation

Calming

- Visual (dim lighting, neutral colors, distractions)
- Auditory (even tone, white noise, fan, headphones)
- Smell (odor, calming scents/lavender, cookies)
- Taste (bland and neutral/BRAT)
- Touch (soft, warm, blankets, firm/weighted)
- Vestibular (slow, rocking, side to side, up/down)

Alerting

- Visual (bright, flashing, patterns, busy areas, playground)
- Auditory (loud, dramatic voices, screaming, unexpected/alarms)
- Smell (strong scented, lemon or citrus)
- Taste (strong/lemon, peppermint, cinnamon, spices)
- Touch (light, soft, unpredictable/bumps and taps)
- Vestibular (tag, stop and go, spinning, rolling, chaotic, fast)



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Steps to Build Self-Regulation

- Identify
- Interrupt escalation
- Self-regulation tool
- Support de-escalation
- Evaluate



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How to sit when you're a kid

- by Betje.com -



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Resources Adolescent Substance Use/Abuse

- <https://www.samhsa.gov/>
- <https://www.adolescenthealth.org/Resources/Clinical-Care-Resources/Substance-Use/Substance-Use-Resources-For-Adolesc.aspx>
- <https://www.usa.gov/mental-health-substance-abuse>
- <https://www.cdc.gov/healthyouth/substance-use/index.htm>
- <https://teen-safe.org/resources>
- <https://opa.hhs.gov/adolescent-health/substance-use-adolescence>



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Resources Adolescent Suicide Prevention

- <https://suicidepreventionlifeline.org/help-yourself/youth/>
- <https://www.samhsa.gov/childrens-awareness-day/past-events/2019/resources-suicide-prevention>
- <https://youth.gov/youth-topics/youth-suicide-prevention>
- <https://dpi.wi.gov/sspw/mental-health/youth-suicide-prevention>
- <https://www.wishschools.org/resources/suicidepreventionresources.cfm>



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The Role of Adverse Childhood Experiences (ACEs) and Addiction



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