






# FREE AND CONFIDENTIAL HELP


**National Suicide Prevention Lifeline**  
 This is a crisis hotline that can help with many issues, anyone who feels sad, hopeless, or suicidal; family and friends who are concerned about a loved one; or anyone interested in mental health treatment referrals can call the Lifeline.  
Call: 988

**Boys and Girls National Hotline:**  
Teens can now text VOICE to 20121 or email [hotline@boystown.org](mailto:hotline@boystown.org) any day, any time to speak with a trained counselor.  
  
Call 24/7: 1-800-448-3000


**Crisis Text Line**  
 Text-based counseling service available anywhere in the US for people in any type of crisis or emotional distress. 24/7  
TEXTLine: 741-741


**Oregon Youth Line:**  
You can text with another teen from 4-10pm PST or call, email, or chat with an adult at any time.  
  
TEXT: teen2teen to 839863


**Lifeline Crisis Chat**  
 Chat online with a trained counselor who can provide emotional support, crisis intervention, and suicide prevention services  
<https://tinyurl.com/54r8ff4x>


**The Trevor Project**  
Organization providing crisis intervention and suicide prevention services to LGBTQ+ young people under 25.  
  
[thetrevorproject.org](http://thetrevorproject.org)


**Here is some information that we give to everyone in our research studies. If you or someone you know is having a problem with depression, anxiety, alcohol, drugs, or other emotional or life concerns, help is available!**


**National Runaway Safe-line**  
 Provides services to meet the current needs of vulnerable youth and ultimately achieve an end to youth homelessness.  
<https://www.1800runaway.org/youth-teens>


**Translifeline**  
Resume & Career Resources  
Trans Lifeline is a peer support and crisis hotline offering phone support to transgender people.  
  
<https://translifeline.org/> (877) 565-8860


**National Eating Disorders Association**  
 Contact the NEDA Helpline for support, resources, and treatment options for yourself or a loved one who is struggling with an eating disorder.  
<https://tinyurl.com/pthxt4z4>

**CARES Northwest**  
CARES Northwest is a collaborative, community-based medical program for the assessment, treatment and prevention of child abuse.  
  
<http://www.caresnw.org/contact-us/>

**SAMHSA's Disaster Distress Helpline**  
 Provides 24/7, 365-day-a-year crisis counseling and support to people experiencing emotional distress related to natural or human-caused disasters.  
Call 1-800-985-5990 or text TalkWithUs to 66746

**Find Local Counseling Services**  
Therapist Finder Tool:  
[www.psychologytoday.com](http://www.psychologytoday.com)  
Portland Therapy Center:  
<https://www.portlandtherapycenter.com/>  


**ABCD NEWS!!!!**  
 Resume, Career and Substance Use Information!  
[ABCD Youth Resources](http://www.abcdstudy.org)

**Mental Health First Aid**  
teen Mental Health First Aid (tMHFA) teaches teens, how to identify, understand and respond to signs of mental health and substance use challenges among their friends and peers.  
  
<https://tinyurl.com/5f7fujd6>

# OHSU ABCD STUDY TEAM SPOTLIGHTS – RESEARCH ASSISTANTS

## WHY DID YOU BECOME AN ABCD STUDY RESEARCH ASSISTANT?



**GLORIA (SHE/HER):** I've always enjoyed research, and actually had a research major in college. When I graduated college, during the pandemic, I took a job near home as a secretary at an elementary school. I loved my job there, and still check in from time to time, but felt it was time to focus on something else. When I came across ABCD, it felt like a perfect fit! What's been most enriching about this job is getting to know you, the participants, and working collaboratively with the team to make this process as best for you as we can.



**ARTURO (HE/HIM):** I became a Research Assistant with the ABCD study because it was a great opportunity to get involved in neuroscience research. I was fascinated with psychology and, in particular, neuroscience. So, it was a perfect fit!



**ZAYNAB (SHE/HER):** I became an ABCD Study Research Assistant because of the importance of this kind of research. Looking at cognitive neurodevelopment across different stages of life provides greater insight into how mental illness treatments, and even prevention, can be evolved to support children and adolescents in modern society. This is the kind of innovative research I wanted to contribute to.



**JONAH (HE/HIM):** I was looking to get into the psychology field right after graduating college, and I found the page for the Developmental Brain Imaging Lab that ABCD is part of and thought it looked like a really cool place to work! I was able to get in touch with Dr. Bonnie Nagel and chat about careers in psychology and developmental psychology as a whole. She told me about an opportunity to work on ABCD, and I knew I had to apply given just how impressive the scale of the project is, the importance of the work, and the opportunity to work in such a cool place!



**SARAH (SHE/HER) :** I became an ABCD Study Research Assistant because there is so much to learn about the brain! Having the opportunity to assist in data collection as a Research Assistant is an incredible experience that allows me to contribute to the advancement of our knowledge of the brain.

# FENTANYL:

## What You Need to Know

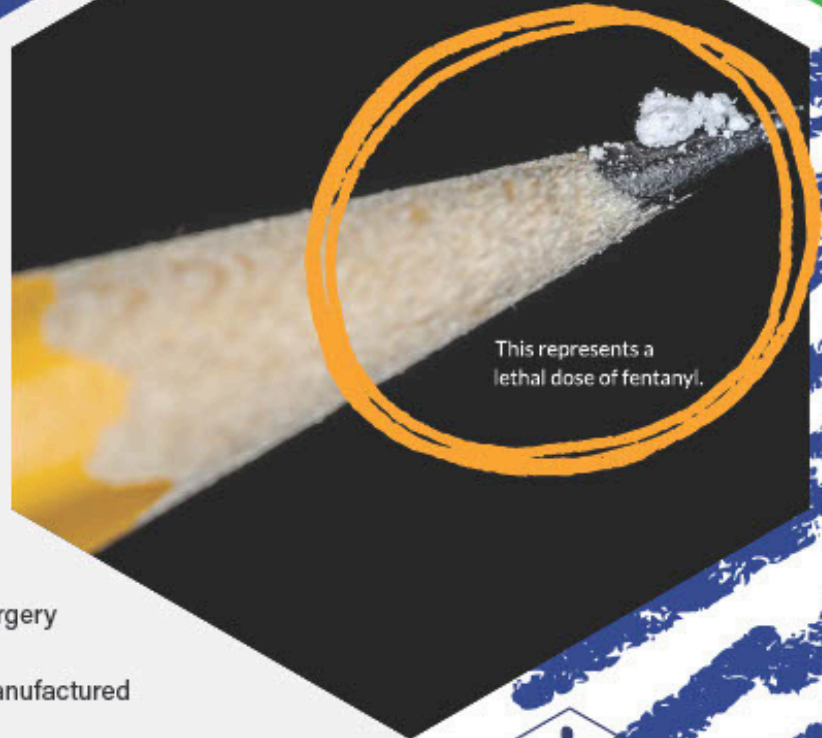
**AUTHENTIC**  
oxycodone M30  
tablets



**COUNTERFEIT**  
oxycodone M30  
tablets containing  
fentanyl



Counterfeit medication can be very difficult to distinguish from legitimate medication.



### WHAT IS FENTANYL?

- Fentanyl is a prescription drug that is also made and used illegally.
- Pharmaceutical prescription fentanyl is used in surgery or to treat patients with severe pain.
- The main public health concern is over illegally manufactured fentanyl and related compounds.
- Fentanyl can be made or distributed in different forms, including liquid and powder, making it easily blended with other drugs, including pressed into fake pills. The fake pills may look like prescription opioids or anti-anxiety medications (see photo above).

### WHAT ARE THE RISKS OF FENTANYL?

- According to the CDC, over 100 people die every day in the United States from overdoses involving synthetic opioids like fentanyl. Fentanyl is involved in about 61% of the 80,000 overdose deaths each year!
- Fentanyl is about 50 times stronger than heroin, which means it is more likely to cause overdose.
- About 2 milligrams of fentanyl is considered a lethal dose.

**That's only about the size of 5-7 grains of salt.**

### DID YOU KNOW THAT XYLAZINE, ALSO KNOWN AS "TRANQ" IS OFTEN MIXED WITH ILLICIT OPIOIDS, INCLUDING FENTANYL?

- In 2024, 21% of people who tested positive for fentanyl also tested positive for xylazine.<sup>2</sup>
- The presence of xylazine and fentanyl in drugs may put individuals at a higher risk of a fatal overdose. Xylazine use can also lead to skin ulcers, abscesses, and related complications.

1. National Center for Health Statistics (US) (December 2024). National Vital Statistics System. Estimates for 2024 are based on provisional data. Estimates for 2015–2023 are based on final data. Accessed July 7, 2025 from: [https://www.cdc.gov/nchs/nvss/mortality\\_public\\_use\\_data.htm](https://www.cdc.gov/nchs/nvss/mortality_public_use_data.htm).

2. Millennium Health (February 2025). Shifting Tides: The Continued Evolution of the "Fourth Wave" of America's Overdose Crisis. Millennium Health Signals Report™, Volume 7. Accessed July 2, 2025 from <https://www.millenniumhealth.com/news/signals-report-7/>.



**FENTANYL IS FREQUENTLY SUBSTITUTED FOR OR MIXED INTO OTHER DRUGS, AND OFTEN WITHOUT AN INDIVIDUAL KNOWING IT.**



**FENTANYL RESOURCES**



Scan to learn more.

## WHY IS THIS INFORMATION IMPORTANT FOR YOU?

- Today, substances sold through social media may contain fentanyl (fent, fetty, etc.) or xylazine (tranq) without the buyer knowing.
- Fentanyl overdoses among youth are on the rise. In 2020, 76% of overdose deaths in 14- to 23-year-olds involved fentanyl.
- From 2019 to 2021, overdose deaths among teens ages 15 to 19 more than doubled. **Teen drug use did not increase – the drug supply became more dangerous.**
- In 2023, 1,589 teens aged 15-19 died of a drug overdose. Fentanyl was involved in 79% of those deaths.
- **Using more than one drug at a time is called polysubstance use.** Mixing drugs can be more dangerous than using one drug alone, and possibly more deadly. To learn more, visit [www.cdc.gov/stop-overdose/caring/polysubstance-use.html](http://www.cdc.gov/stop-overdose/caring/polysubstance-use.html).
- It is nearly impossible to tell if drugs contain fentanyl or xylazine without using test strips or other drug checking methods. However, not all dangerous additives are detected by standard drug checking methods.

## HOW CAN YOU KEEP YOURSELF AND OTHERS SAFE?

- Overdose can affect anyone. It can be scary, but learning about these drugs and knowing the steps to take can help save someone's life.
- Naloxone, also known as **Narcan**, and nalmefene are life-saving medications that can reverse opioid overdose. They are safe to use even if no opioids are present.
- Naloxone is the only opioid reversal drug that is available in nasal spray form.
- Watch **How to Use Naloxone:** [www.youtube.com/watch?v=odIFtGNjmMQ](https://www.youtube.com/watch?v=odIFtGNjmMQ)
- **Test for fentanyl with test strips**, small strips of paper that detect fentanyl in other drugs (cocaine, methamphetamine, heroin, etc.):
  - › Can test pills, powder, and injectables
  - › Reduce accidental exposures
- Fentanyl test strip availability varies by state.
  - › Contact your local health department or harm reduction agency to learn more.
- Check for overdose symptoms.

## RECOGNIZING THE SIGNS OF OPIOID OVERDOSE CAN SAVE A LIFE.

### LOOK FOR:

- › Small, constricted "pinpoint pupils"
- › Falling asleep or losing consciousness
- › Slow breathing, weak breathing, or no breathing
- › Choking or gurgling sounds
- › Limp body
- › Discolored skin (blue or purple lips and nails)

### IF YOU THINK SOMEONE IS EXPERIENCING A DRUG OVERDOSE:

- › Call 911 immediately
- › Administer an overdose reversal medication, such as naloxone or nalmefene
- › Lay the person on their side to prevent choking
- › Don't leave the person until medical help arrives

**SAVE A LIFE FROM OPIOID OVERDOSE**  
[cdc.gov/rx-awareness/prevent](http://cdc.gov/rx-awareness/prevent)

### Resources for substance use disorder treatment:

To find treatment and service options near you, visit [FindTreatment.gov](http://FindTreatment.gov), call the 24/7 National Helpline at 800-662-HELP (4357), or visit online at [www.samhsa.gov/find-help/national-helpline](http://www.samhsa.gov/find-help/national-helpline).

# ABCD STUDY® SCIENCE: ADVANCING DISCOVERY WITH INTEGRITY AND RESPECT FOR STUDY PARTICIPANTS

We are committed to correctly representing our participants and using study results to help youth in the future. To do that, it is important for scientists to use data responsibly, which helps ensure that study results are accurate and maintains public trust in research.

This infographic explains:

- What responsible data use is
- How scientists use data responsibly
- What you can do to be responsible with data, too

THE ADOLESCENT BRAIN COGNITIVE DEVELOPMENT<sup>SM</sup> (ABCD) STUDY IS A LONG-TERM STUDY OF YOUTH AS THEY GROW.

NEARLY 12,000 YOUTH ARE PARTICIPATING AT **21 STUDY LOCATIONS** ACROSS THE UNITED STATES.

## UNDERSTANDING DATA

### DATA

Participant information becomes study **data**.

Data may include MRI scans, genetic information, survey answers, activity information (like step counts), biosamples (such as blood and saliva samples), and personal details like race or family income.



### DE-IDENTIFIED DATA

Scientists **de-identify** participant data before sharing it with other scientists. This means that details like names and addresses have been removed from the data to protect each person's identity and privacy.



### BIG DATA

ABCD is a **big data** study with many participants from many backgrounds. Big data studies include large amounts of information analyzed with advanced computing tools.



We use the **de-identified data** to answer questions about youth health and behavior.

The answers help teachers, doctors, and policymakers create guidelines and programs to improve youth well-being in the future based on data from youth today.



DAVID WEISSMAN, PH.D.



Adolescent Brain Cognitive Development  
Your Brain. Today's Science. Brighter Future.

## PROMOTING DIGNITY AND RESPECT FOR PARTICIPANTS

PROMOTING DIGNITY AND RESPECT FOR PARTICIPANTS AND COMMUNITIES LEADS TO RIGOROUS AND IMPACTFUL SCIENCE.



It's a good idea to use language that is not judgmental.

Some communities do not trust how their data will be used because of **historical injustices**, including:

- Dividing neighborhoods unfairly (redlining) so some groups cannot get homes, financial help, or health care.
- Experimenting on people who cannot consent to research, like people experiencing incarceration.



LEARN ABOUT THE ETHICAL ISSUES BEHIND THE TUSKEGEE STUDY. THIS STUDY IS AN EXAMPLE OF A HISTORICAL INJUSTICE.

## INTERPRETING DATA IN A RESPONSIBLE WAY

### WHAT FACTORS AFFECT SUBSTANCE USE BEHAVIORS AND PATTERNS?

Rather than focusing on demographic factors (e.g., sex, race, employment status, income), it's better to look at substance use behaviors and patterns in a broader way that considers social and environmental factors that may raise or lower risk of substance use.

INTERPERSONAL

FAMILY

SCHOOL

COMMUNITY

SOCIETY

It's our job to look deeper into patterns in the data to make sure we interpret results correctly.

For example, we might see a trend among people from one race or sex, but that pattern is explained by experiences with discrimination, not by race or sex.

MARYBEL ROBLEDO GONZALEZ, PH.D.

Scientists working with ABCD Study data participate in training on responsible data use to learn about:

- Understanding historical injustices, particularly in science, to help them approach data with greater awareness about historical context and responsibility for doing ethical research
- Paying attention to assumptions and biases that may contribute to how people are put into categories
- Exploring scientific questions about ways youth and communities can thrive

## RESPONSIBLE USE OF ABCD DATA IN PUBLISHED PAPERS

"Recommendations for the responsible use and communication of race and ethnicity in neuroimaging research"

2024 Carlos Cardenas-Iniguez and Marybel Robledo Gonzalez

What the guidelines suggest



USING RACE AND ETHNICITY RESPONSIBLY BY RECOGNIZING THEM AS SOCIAL CONSTRUCTS, AVOIDING THEIR USE AS PROXIES FOR SOCIAL FACTORS, AND FOCUSING ON HEALTH EQUITY.

"The inequitable distribution of economic resources and exposure to adversity between racial groups contribute to mental health disparities within the United States."

2024 Nathaniel Harnett et al.

What the research suggests



UNEQUAL ACCESS TO FINANCIAL RESOURCES AND EXPERIENCES OF ADVERSITY ARE RELATED TO DIFFERENCES IN MENTAL HEALTH BETWEEN RACIAL GROUPS.

"Characteristics, such as cost of living and state-level anti-poverty programs, relate to the magnitude of socioeconomic disparities in brain development and mental health."

2023 David Weissman et al.

What the research suggests



FINANCIAL ASSISTANCE PROGRAMS REDUCE GAPS IN MENTAL HEALTH AND BRAIN DEVELOPMENT BETWEEN LOW-INCOME AND HIGH-INCOME FAMILIES.

## WHEN IMPORTANT DATA ARE MISSING

**MISSINGNESS IS WHEN THE COLLECTED STUDY DATA ARE INCOMPLETE. THIS MAY BE DUE TO WHO DOES OR DOESN'T RESPOND TO A SURVEY. MISSINGNESS ISN'T ALWAYS PROBLEMATIC, BUT IN SOME CASES THERE'S A PATTERN OF MISSING DATA THAT CAN AFFECT STUDY RESULTS.**

It is exciting to have so much information from youths with different life experiences.

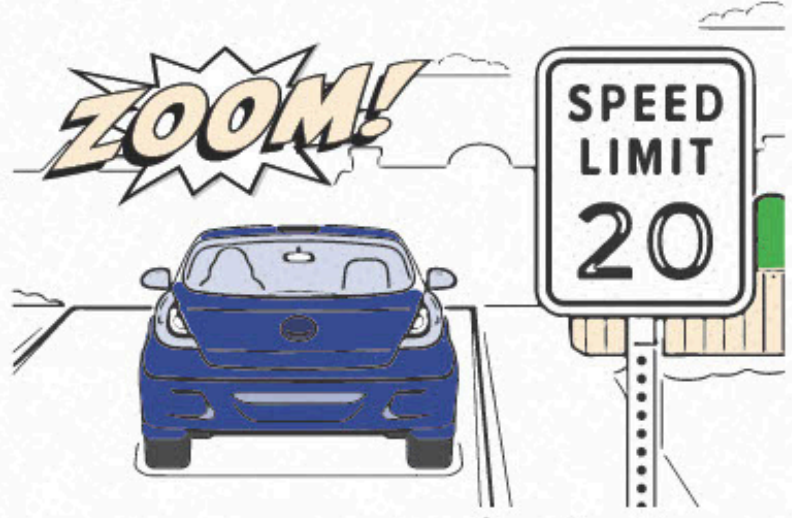
However, if information is missing or incomplete, then we may have trouble getting study results that give a true picture.

NATHANIEL HARNETT, PH.D.

# DATA MISSINGNESS

**Here's an example:** A scientist might want to know how many teens speed while they drive. They may ask how many speeding tickets a sample of teens has received. Teens who are embarrassed about their speeding tickets might not report this information at all, leaving only answers from teens with no speeding tickets.

**Information is missing.** This leads to an underestimate of the true number of speeding tickets received by teens in the sample.



MISSING DATA CAN THREATEN DATA GENERALIZABILITY

**GENERALIZABILITY IS HOW ACCURATELY FINDINGS FROM A RESEARCH STUDY APPLY TO A BROADER POPULATION.**



**In the ABCD Study, we ask:**  
Can these findings be generalized, or applied, to different groups of teens?

## DATA BIAS

IF SCIENTISTS DON'T THOUGHTFULLY ADDRESS MISSING DATA, STUDY RESULTS CAN BE BIASED.

ABCD scientists want to help participants feel safe about sharing data because we care about their well-being and it lowers the risk of bias and missing data.



NATHANIEL HARNETT, PH.D.

# CONSIDERING THE SOURCE OF INFORMATION

SCIENTISTS NEED TO DO THEIR PART BUT IT IS ALSO IMPORTANT FOR YOU TO MAKE SURE THE SOURCE OF INFORMATION YOU READ IS RELIABLE BEFORE TRUSTING ITS CONCLUSIONS.

THE **LEAN** APPROACH HELPS PEOPLE THINK ABOUT WHAT THEY WATCH, READ, OR HEAR, AND DECIDE WHETHER AN INFORMATION SOURCE IS ACCURATE AND TRUSTWORTHY.

**Language**

**Evidence**

**Author**

**Neutrality**

**LANGUAGE**

Carefully consider the **language** used in a headline, research paper, news article, or other source.

**Ask yourself:**

Are they using emotional words or leading words? Are they exaggerating the study results? Do they state facts?



**"Screen use RUINS teens' brains"**

The words people use matter and influence the message.



**EVIDENCE**

- ▶ The information should be backed up by evidence to help ensure credibility.
- ▶ Two things can be related without one causing the other (like a rooster crowing and sunrise).
- ▶ Sometimes it can be hard to know the direction of a relationship between two things, like exercise and happiness. Does exercise lead to feeling happier, or are happier people more likely to exercise?

**Ask yourself:**

Do the data support the conclusion? Does the conclusion make sense?



**"Excessive screen use CAUSES depression."**

**AUTHOR**

Trust in the **author** is important—the source matters.

**Ask yourself:**

Do they have knowledge and experience in the topic? What website posted the information? Is the author a health care provider, a scientist, a journalist? What are their qualifications?



**ARTICLE:**  
**IS THIS LEGIT?**  
ACCESSING  
VALID AND  
RELIABLE HEALTH  
INFORMATION

You can check to make sure the author's expertise matches the topic.

**NEUTRALITY**

Look for **neutral** information and recognize when articles are one-sided.

**Ask yourself:**

Is the author stating facts or are they trying to convince you of something? Does the author have an agenda they are trying to push?



## KEY WORDS

# GLOSSARY

**Data:** measurable information that can be counted or put into distinct categories

**Big data:** very large amounts of information that require complex analytic tools to answer research questions

**De-identified:** type of data that has personal information removed

**Evidence:** facts and information based on data

**Valid:** scientifically supported and accurate information

**Bias:** one-sided or slanted views that do not represent information objectively

**Missingness:** some data are included but other data are missing or were not collected

**Generalizability:** how well findings from a research study apply to a broader population

**Stigmatizing:** instigating or promoting marginalization or discrimination of a person or group of people

This information is made possible by the **Adolescent Brain Cognitive Development<sup>SM</sup> Study**. ABCD-supported studies let us learn more about how the brain develops, which can lead to improving the health and well-being of children now and for future generations. As of March 2026, scientists have published more than 1,800 papers using ABCD data.

Learn more: [abcdstudy.org/families](https://abcdstudy.org/families)

## RELATED ARTICLES

### Anti-Poverty Programs May Help Reduce Disparities in Brain Development and Mental Health Symptoms in Children

<https://nida.nih.gov/news-events/news-releases/2023/05/anti-poverty-programs-may-help-reduce-disparities-brain-development-mental-health-symptoms-children>

### State Anti-Poverty Programs Help Kids' Brains Stay Healthy

<https://www.usnews.com/news/health-news/articles/2023-05-03/state-anti-poverty-programs-help-kids-brains-stay-healthy>

### Study Finds Childhood Adversity Linked to Brain Differences in White, Black Children

<https://psychiatryonline.org/doi/10.1176/appi.pn.2023.03.2.7>

### How to Use Race and Ethnicity Data Responsibly in Neuroscience Research

<https://www.thetransmitter.org/community/how-to-use-race-and-ethnicity-data-responsibly-in-neuroscience-research/>

## REFERENCES

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Harnett NG, Fani N, Rowland G, Kumar P, Rutherford S, Nickerson LD. Population-level normative models reveal race- and socioeconomic-related variability in cortical thickness of threat neurocircuitry. *Commun Biol*. 2024;7(1):745. Published 2024 Jun 19. <https://pubmed.ncbi.nlm.nih.gov/38898062/>

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Adolescent Brain Cognitive Development<sup>SM</sup>  
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