**DIRECTIONS: Read closely and color code: main idea(2-3 sentences that capture what the whole article is about), best evidence (think credible sources), interesting word choices/figurative language (think about what the writer intends), counterclaim (if applicable). You may also leave comments in margins if it helps you to think about the text. When finished, you will write your summary paragraph at the bottom of this doc.**

# What teenage brains can teach us about thinking creatively

By Washington Post, adapted by Newsela staff
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They learn second languages and sonatas. They invent dances, coin slang, lead political movements, make Bookstagrams and draw millions of views to Minecraft and makeup streams. From crammed city apartments and the finished basements of America's outer suburbs, they generate colossal revenue on YouTube and iterate endlessly on TikTok. The video app's billion-plus users have helped to make parent company ByteDance one of the world's most valuable start-ups.

Why don't teenagers get more credit?

For years, conventional wisdom regarded teens as little more than waterspouts of hormones, swirling from one mishap to another. Then, advancements in neuroscience helped to broaden our understanding of teen behavior. The public learned more about research into the brain's prefrontal cortex, which regulates planning and decision-making and doesn't mature until about age 25. This went a long way toward explaining adolescents' often-impulsive behavior. However, it left adults more focused on the teenage brain's role in risk-taking rather than its role in learning and creating.

That has frustrated some researchers.

## The Unique Neurological Stage Of A Teen Brain

"Oversimplified headlines" and adults' obsession with teenage vulnerability have led to a fundamental misunderstanding of recent science, according to a sprawling report on adolescent development released in 2019 by the National Academies of Sciences, Engineering, and Medicine. Several nonprofits funded the report, including the Bezos Family Foundation, run by the parents of Washington Post owner Jeff Bezos.

The report is part of a growing effort by nonprofits, scientists and policy scholars to reframe how different disciplines, and the general public, think about adolescence. It's true that the "emotional" and "rational" parts of teens' brains develop at different paces. But that's not necessarily a bad thing, researchers say. Fixating on the negatives overlooks the very opportunities that can help teens learn and grow.

The "fearlessness" that concerns adults, said Adriana Galván, director of UCLA's Developmental Neuroscience Laboratory, is "exactly what makes adolescents thrive in the space of creativity and enacting social change."

The teenage brain's characteristics, including its inclination toward taking risks, are what prepare teenagers for adulthood. It's what lends them a sort of superpower in learning, skill acquisition and creativity. Teenage brains are at a unique neurological stage. They retain much of the adaptability of childhood, building up new connections and pruning away unused ones. But they are also starting to gain the adult ability to think abstractly, envision the future, and make social connections, Galván said.

## Building And Refining New Connections In The Brain

The prefrontal cortex remains important to adolescent neuroscience, Galván said. However recent research has also focused on the regions that contribute to teenagers' socioemotional development — and the understanding that these regions don't develop in isolation. The prefrontal cortex, the social regions and other parts of the brain are also building and refining new connections between each other, a process just as important as the maturation itself.

In her research, for example, Galván has examined the connection between the brain's striatum, a region associated with reward-seeking behavior, and the hippocampus, associated with learning and memory. Her work suggests that the connection is especially strong in teens and that adolescents are more likely than adults to learn from positive feedback. This could have applications for education, she said.

"If the adolescent brain is really good at learning from rewards," Galván said — driving the kinds of thrill-seeking behaviors that otherwise put adults so on edge — "we should leverage that to help them learn."

Risks, in other words, don't have to always seem harmful, said Joanna Lee Williams, an associate professor at the University of Virginia's Curry School of Education and Human Development and a contributor to the National Academies report. They can be healthy, too, like deciding to join the marching band.

That doesn't mean lifting all limits on teenage behavior or waving away risks entirely. But parents and educators can start by understanding that not all risks are created equal, Williams and other researchers say — some are crucial for learning and creating.

## "The Adolescent Brain Doesn't Develop In Isolation"

Williams acknowledges that comes from a "30,000-foot vantage point." The report's findings won't apply to every argument between adults and teenagers, but, generally, teens' sensitivity to rewards means they might not simply ignore risks, but think of them in positive terms. Parents and educators can take advantage of that, helping them to learn from mistakes rather than leaping straight to punishment.

"The adolescent brain doesn't develop in isolation," said Galván, who also helped review the National Academies report. "It develops in families, it develops in systems and it develops in different environments." Any of those components can change a teenager's growth for better or worse.

That's something youth advocates and educators have known for years. Williams said she has spoken with middle school educators whose concerns were much closer to the ground: What does the newer research mean for students in my school facing issues such as mental illness, family problems, racism, or economic inequality? Mental illness is a health condition that changes a person's thinking, feelings or behavior and that causes the person distress and difficulty in functioning. As with many diseases, mental illness is severe in some cases and mild in others and is not always obvious. People who have mental illnesses can be treated with medication and therapy.

"Just because I believe in the promise of adolescence and adolescence as an age of opportunity," Williams said, "does not mean there aren't also these huge, realistic challenges as well."

She sees teens at the forefront of social movements, injecting energy and new ideas into public life. That has been the case throughout history, she said, and the newer developmental science explains why. She is proud and excited when she sees those changes, but not surprised.

"If more youth had this opportunity," Williams said, "then, of course, we should expect these things."

**DIRECTIONS: Now that you have read and thought about the article, write your summary below. It should consist of the articles 3-4 main points and should not contain 1st person pronouns (I, me, my) nor direct quotes from the text.**