COMMONLIT

Name: _____ Class: _____

Why it's time to lay the stereotype of the 'teen brain' to rest

By Dan Romer
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In this informational text, Dan Romer discusses widely held beliefs about why teenagers engage in risky behavior, and offers an explanation of his own.

[1] A deficit[1] in the development of the teenage brain has been blamed for teens' behavior in recent years, but it may be time to lay the stereotype of the wild teenage brain to rest. Brain deficits don't make teens do risky things; lack of experience and a drive to explore the world are the real factors.

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As director of research at a public policy center that studies adolescent risk-taking, I study teenage brains and teenage behavior. Recently, my colleagues and I reviewed years of scientific literature about adolescent brain development and risky behavior.

We found that much of the risk behavior attributed to adolescents is not the result of an out-of-control brain. As it turns out, the evidence supports an alternative interpretation: Risky behavior is a normal part of development and reflects a biologically driven need for exploration — a process aimed at acquiring experience and preparing teens for the complex decisions they will need to make as adults.

Stereotypes of adolescence

We often characterize adolescents as impulsive, reckless and emotionally unstable. We used to attribute this behavior to "raging hormones." More recently, it's been popular in some scientific circles to explain adolescent behavior as the result of an imbalance in the development of the brain.

[5] According to this theory, the prefrontal cortex, the center of the brain's cognitive-control system, matures more slowly than the limbic system, which governs desires and appetites including drives for food and sex. This creates an imbalance in the adolescent brain that leads to even more impulsive and risky behavior than seen in children — or so the theory goes.

This idea has gained currency to the point where it's become common to refer to the "teenage brain" as the source of the injuries and other maladies[2] that arise during adolescence.

1. a problem that causes a decrease in ability
2. a disease or illness

In my view, the most striking failure of the teen brain hypothesis is its conflating[3] of important differences between different kinds of risky behavior, only a fraction of which support the notion of the impulsive, unbridled adolescent.

Adolescents as explorers

What clearly peaks in adolescence is an interest in exploration and novelty seeking. Adolescents are by necessity engaged in exploring essential questions about themselves — who they are, what skills they have and who among their peers is worth socializing with.

But these explorations are not necessarily conducted impulsively. Rising levels of dopamine[4] in the brain during adolescence appear to drive an increased attraction to novel and exciting experiences. Yet this "sensation seeking" behavior is also accompanied by increasing levels of cognitive control that peak at the same age as adolescents' drive for exploration. This ability to exert cognitive control peaks well before structural brain maturation, which peaks at about age 25.

[10] Researchers who attribute this exploratory behavior to recklessness are more likely falling prey to stereotypes about adolescents than assessing what actually motivates their behavior.

If adolescents were truly reckless, they should show a tendency toward risk-taking even when the risks of bad outcomes are known. But they don't. In experiments where the probabilities of their risks are known, adolescents take fewer risks than children.

In experiments that mimic the well-known marshmallow test, in which waiting for a bigger reward is a sign of self-control, adolescents are less impulsive than children and only slightly more so than adults. While these forms of decision-making may place adolescents at a somewhat greater risk of adverse outcomes than adults, the change in this form of self control from mid-adolescence to adulthood is rather small and individual differences are great.

There is a specific kind of risk-taking that resembles the imbalance that the brain-development theory points to. It is a form of impulsivity that is insensitive to risk due to acting without thinking. In this form of impulsivity, the excitement of impulsive urges overshadows the potential to learn from bad experience. For example, persons with this form of impulsivity have trouble controlling their use of drugs, something that others learn to do when they have unpleasant experiences after using a drug. Youth with this characteristic often display this tendency early in childhood, and it can become heightened during adolescence. These teens do in fact run a much greater risk of injury and other adverse outcomes.

But it is important to realize that this is characteristic of only a subset of youth with weak ability to control their behavior. Although the rise in injurious[5] and other risky behavior among teens is cause for concern, this represents much more of a rise in the incidence of this behavior than of its prevalence. In other words, while this risky behavior occurs more frequently among teens than children, it is by no means common. The majority of adolescents do not die in car crashes, become victims of homicide or suicide, experience major depression, become addicted to drugs or contract sexually transmitted infections.

3. combining two or more things into one
4. a chemical in the body responsible for sending messages between the brain and different nerve cells
5. **Injurious** ***(adjective):*** causing or likely to cause damage or harm

[15] Furthermore, the risks of these outcomes among a small segment of adolescents are often evident much earlier, as children, when impulse control problems start to appear.

The importance of wisdom

Considerable research suggests that adolescence and young adulthood is a heightened period of learning that enables a young person to gain the experience needed to cope with life's challenges. This learning, colloquially[6] known as wisdom, continues to grow well into adulthood. The irony is that most late adolescents and young adults are more able to control their behavior than many older adults, resulting in what some have called the wisdom paradox. Older adults must rely on the store of wisdom they have built to cope with life challenges because their cognitive skills begin to decline as early as the third decade of life.

A dispassionate review of existing research suggests that what adolescents lack is not so much the ability to control their behavior, but the wisdom that adults gain through experience. This takes time and, without it, adolescents and young adults who are still exploring will make mistakes. But these are honest mistakes, so to speak, because for most teens, they do not result from a lack of control.

This realization is not so new, but it serves to place the recent neuroscience of brain development in perspective. It is because adolescents are immature in regard to experience that makes them vulnerable to mishaps. And for those with weak cognitive control, the risks are even greater. But we should not let stereotypes of this immaturity color our interpretation of what they are doing. Teenagers are just learning to be adults, and this inevitably involves a certain degree of risk.

6. casual or informal speech

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement identifies the central idea of the text?
    A. Experts have spent time researching how different the teenage brain is from adults' brains, when they are actually more similar than different.
    B. Teenagers often engage in risky behavior to fulfill the narrative they have been told about how teenagers are supposed to behave.
    C. Explanations for why teenagers engage in risky behavior have been overly focused on brain development, rather than their natural need to explore the world.
    D. Teenagers' risky behavior is influenced by the combined effects of their hormone levels and their brain development.

2. PART B: Which detail from the text best supports the answer to Part A?
    A. "Brain deficits don't make teens do risky things; lack of experience and a drive to explore the world are the real factors." (Paragraph 1)
    B. "According to this theory, the prefrontal cortex, the center of the brain's cognitive-control system, matures more slowly than the limbic system, which governs desires and appetites including drives for food and sex." (Paragraph 5)
    C. "In experiments that mimic the well-known marshmallow test, in which waiting for a bigger reward is a sign of self-control, adolescents are less impulsive than children and only slightly more so than adults." (Paragraph 12)
    D. "The majority of adolescents do not die in car crashes, become victims of homicide or suicide, experience major depression, become addicted to drugs or contract sexually transmitted infections." (Paragraph 14)

3. Which of the following best describes the author's main purpose in the text?
    A. to encourage teens to be careful as they explore the world, as this can lead to risky behavior
    B. to criticize past experts who have pointed to teens' brains and hormones to explain their risky behavior
    C. to disprove the idea that all teens are dangerously impulsive because of their mental development or hormones
    D. to prove that the cognitive abilities and decision-making skills of adults and teens aren't so different

4. Which of the following describes how the author develops his analysis of teenagers' behavior?
    A. He describes his own risk-taking as a teenager, and explains how his actions were exploratory rather than impulsive.
    B. He describes common explanations for teenagers' behavior, and gives reasons for why they fail to explain teenagers' behavior.
    C. He compares the state of teenagers' brains with the brains of adults to show that there are no significant differences.
    D. He references exaggerated stories about teenagers' risky and impulsive behavior to emphasize how far from the truth it is.

5. What connection does the author draw between stereotypes about teenagers and explanations for their behavior?

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. In the text, the author discusses the stereotypes about teenagers that have influenced experts' understanding of their behavior. What are some stereotypes that you have heard that you think don't apply to most teenagers? Why do you think these stereotypes exist even though they don't pertain to most teenagers?

2. In the text, the author discusses how teenagers learn from taking risks. Describe a time when you took a risk and learned from the experience. What would happen if humans never took risks?