

Brain Changes From Tween to Teen

A middle schooler stands proudly in the cafeteria, waits until all are watching, and, keeping his end of the bargain, eats the frog heart “harvested” from that morning’s biology lesson. Several days later during silent dismissal, a girl suddenly shrieks, “He put a booger on my binder.” And then there is the eighth-grade girl who was terrified to learn that the young man she’s been flirting with on Facebook really did drive from Kentucky to pick her up after school.

Why do young teens engage in the inexplicable, bizarre, and sometimes dangerous behaviors that characterize this age group? Who are these alien visitors who barely speak and whose unrelenting challenges bring out our worst characteristics? Are they crazy? Are they possessed? Is it something we did or didn’t do?

No, they are just the next batch of newly minted tweens and teenagers. As they approach and reach puberty, children enter a unique stage of development. Except for the period from birth to age 3 or 4, there is no other time when so many changes occur so rapidly. To understand a teenager, we need to understand the tumultuous changes occurring in their brains (it’s not just their bodies that are changing) and we need to appreciate the personal struggles they must endure.

Until recently, researchers assumed that the brain was fully formed by age 5 and that a teenager’s brain was simply an adult brain with “fewer miles on it” (as a neurologist from Harvard recently remarked). But these are not adult brains; in fact, they are far from it. In addition to a rapid growth of neurons in the frontal lobe, puberty unleashes a chemical tsunami, resulting in increased cognitive abilities and new and far more intense emotions.

Further complicating the picture is that teenagers are driven by genetically coded and chemically driven reproductive needs to leave their family of origin and to seek relationships outside the family. Leaving the comfort and safety of one’s home requires a certain amount of risk-taking and adventure-


seeking, without which, most would never leave. But the same risk-taking and adventure-seeking also leads to decisions that are bizarre (eating frog hearts) and even dangerous (believing they can drink or text and drive without consequence).

The neurobiological, neurochemical, and maturational changes that allow them to learn calculus, to develop intimate relationships, and to find the courage to venture into the world alone, are the same changes that lead to unplanned pregnancy, drug and alcohol use, and the 200 percent to 300 percent increase in injuries and deaths that occur during this otherwise healthy period.

Just before completing our book, *The Middle School Mind: Growing Pains in Early Adolescent Brains*, we asked middle school principals to share their perspectives on building relationships with early teen and tween students. Their responses, which conclude our book, include the following:

- We need to teach and demonstrate respect and to model appropriate behavior. Our students must have respect from us for them to respect us.
- Middle school is the learning ground for making better choices. Students are going to make mistakes, but mistakes provide the opportunity to grow and to learn. If parents would allow their students to take responsibility for their actions, there would be fewer times that the students were in trouble for making bad choices.

- Even though middle schoolers seem to want to separate from adults, this is a time when adults must continue to exert an influence on them. It only takes one adult to make a huge impact on a teen’s life.
- Enjoy their humor. Laugh with them when they make mistakes. Hold high expectations for academics and behavior, but always show them you care.
- Principals enjoy having one-on-one chats with students in distress. Being there for him or her will make an indelible impact on that student’s life.
- When parents rant and rave over a suspension, they are modeling this behavior for their student. Know that the students also have to deal with those same parents when they are upset with them. Feel for the student, knowing that things are probably pretty tough at home.
- Until we are able to openly talk with our students and truly show them we care, they will keep us at arm’s length.
- Until we can control our emotions and react calmly, middle schoolers will not talk openly. To influence their lives and how they will progress through this tough period in their lives, adults must care for them, set high expectations for them, and know they will falter. Don’t forget, we stumbled during our teen years.

In every case, principals advised patience and understanding. After reading their words, we changed the final sentence in our book: “Perhaps principals, teachers, and even parents should begin by taking some form of the Hippocratic Oath: First, do no harm.” 

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