

CLASSROOM

connection

The changing adolescent brain The key to understanding your child's behavior

Parents look at adolescents and adolescents look at parents, each asking the same question, "Who is this alien living in my house?" Behaviors and relationships that once made sense are suddenly beyond comprehension. So, what's changing? The adolescent brain.

Scientists have discovered that the outward physiological changes taking place in that young student are also occurring in his or her brain. Understanding and learning to cope with these changes are keys to maintaining a healthy parent-child relationship.

Let's begin by looking at three "brain factors" that impact how adolescents act—which portions of the brain an adolescent uses, how the adolescent brain is changing, and how sleep impacts the way the adolescent brain processes information.

IT REALLY IS THE BRAIN

Scientists have long accepted that the majority of brain growth and development occurs in the womb and during the first 18 months of life. In the last 10 years, however, researchers at the National Institute of Health (NIH) discovered that the human brain undergoes a second wave of development roughly between ages 10 and 13.

Using MRI (multi resonance imagery), researchers have literally mapped brain development from childhood through early adulthood. They found that a frontal portion of the early teen's brain, the part that governs planning, organization, judgment, impulse control and reasoning, does not fully function until early adult years. Meanwhile, the

emotional portion of the brain is already fully developed. The result is a teenage tendency to seemingly ignore common sense and to respond emotionally and impulsively to many situations.

HARDWIRING AN ADOLESCENT

Brain development in the adolescent years is a two-stage process. In the first stage, the brain "grows" by producing neurons (brain cells) and synapses (connectors). In the second stage, the body prunes away weaker and unused neurons and synapses and reinforces those that remain. Simply put, we either use it or lose it.

The NIH research suggests that adolescents' activities during this period have a lasting impact on which cells and connections survive. If preteens are active in music or academics or athletics, those portions become "hardwired." If, however, activities are limited to video games or television, it is those portions of the brain that survive.

MISSING SLEEP

Brown University researchers discovered that the average teen gets about 7 1/2 hours of sleep each night, yet they need more than nine hours. This lack of sleep can bode disaster.

During sleep, the brain actually processes information that it learns during the day. It consolidates and practices both intellectual and physical information. For example, a basketball player who works in the day to improve his or her shooting replays that lesson during portions of that evening's sleep. The brain files the instruction and the muscle

memory information for future retrieval. Without sufficient sleep, the athlete's lesson is essentially lost.

While adequate sleep is important for all learning, it is especially critical for more complex and abstract concepts that stretch our minds such as physics and calculus.

ALL IS NOT LOST

Given the evidence that adolescent behavior is influenced by physiological change, parents may feel powerless to help. Nothing can be further from the truth. If anything, children in these formative years need their parents more than ever. Recognize that children are not necessarily able to make sound decisions without your guidance. It is not always easy, but here are a few suggestions to help you balance their growing need for independence with your responsibility to guide and protect them:

Gently (but firmly) offer advice—Let your children know that you understand that it is difficult to resist impulses, but that impulsive behavior can have disastrous consequences. Remember, however, that simply instructing your children is no guarantee that they will make wise choices. You still need to monitor their decisions and intervene when you know a particular decision is potentially harmful.

Model good behavior—Demonstrate through your behavior how you want your children to behave. A visual lesson can often be more effective than simply handing out orders. Join them in routine

tasks (such as dishes or folding the laundry) and have them join you in a civic or social activity.

Help keep them organized—Your children aren't always making sensible choices, so you need to help keep them on track. Use calendars and planners to minimize the need for impulsive decisions and to reinforce their sense of responsibility. Be certain to include time for sleep amid their many academic and extracurricular activities.

Monitor activities—Encourage your children to engage in activities that "exercise" the brain such as reading, conversation, or athletics. Although everyone needs a little downtime, limit activities like television and video games.

Smile—Maintain a sense of humor and patience throughout the process. Your attitude can lighten a difficult situation.

Look for help—Don't hesitate to seek a little help if things begin to get out of hand. Your school guidance department is a good place to start.



Health Class Stimulates Conversations on the Brain and More

Parents' responsibilities can be overwhelming, but schools offer a variety of support systems to help them nurture their children's mental, emotional and physical development. One such support system is the classroom. In the case of the adolescent brain, health classes can provide education for students as well as a stimulus for parents and their children to tackle this complex topic.

Schalmont Middle School teacher Lauren Defayette has been with the district since 1992. Over the years, she's come to recognize the importance of engaging students in any topic under discussion. Her 10-week health classes for sixth- and eighth-grade students cover a broad spectrum of brain-related topics, including self-esteem, healthy decision making, understanding the consequences of decisions, what influences a person's values, choosing good friends, and the importance of sleep. The topic of nutrition is weaved in throughout the course, but covered in greater detail by teacher Diane Babin in the seventh grade.

Defayette wants her students to feel comfortable discussing such topics, so she asks them to not discuss other students' personal information outside of the

classroom. "The only exception is if it engages them in a conversation with their parents. That's a wonderful thing," said Defayette.

Teenagers are notorious for being close-lipped, but parents may find that certain health class lessons make it easier to engage their children in discussions about difficult topics. For example, a lesson about the dangers of drugs may give parents the perfect opportunity to discuss their family's values and feelings about addictive behaviors. It may also give parents and children a new way to address the topic of poor decision-making in less destructive areas, such as choosing to stay up late on a school night or to not adequately study for a big test.

According to Defayette, "Bad decisions, if used correctly, can become a learning opportunity. Students who learn from them can grow in a positive way."

That learning opportunity is a great foundation for future decision making. As Defayette said, "Anybody who decides they want to make a change can make a change."

Want to know more about the inner workings of your adolescent child(ren)?

Check out these online resources:

▶ **"The Teenage Brain"**—A PBS television program from Frontline that delves deeper into the topic, <http://www.pbs.org/wgbh/pages/frontline/shows/teenbrain/>

▶ **"Teens and their Parents in the 21st Century"**—A federal government report on behaviors that lead to positive results in teens, http://clinton3.nara.gov/WH/EOP/CEA/html/Teens_Paper_Final.pdf

▶ **The National Parenting Center**—Articles on parenting with topics ranging from puberty to school performance and a "Parent's Corner" where parents offer their views of current trends and behaviors, <http://tnpc.com>



MARK YOUR calendar

MARCH

- 6-12 **Grades 6-8: NYS Math Exams**
- 7 MS/HS Interim Reports Issued
- 10 Board of Ed. Meeting @ Mariaville, 7 p.m.
- 13 MS/HS Choral Concert @ HS, 7 p.m.
- 14 Sabre City, 7-9 p.m.
- 17 MS PTO Meeting, 7 p.m.
- 19 MS/HS Instrumental Concert @ HS, 7 p.m.
- 21-24 **NO SCHOOL – Good Friday**
- 25 Board of Ed. Meeting @ MS LGI, 7 p.m.
- 26 – 4/2 MS Book Fair
- 28 **NO SCHOOL**

APRIL

- 7 Board of Ed. Meeting @ MS LGI, 7 p.m.
- 8 **Grades 8: NYS Science Exams**
- 11 MS/HS Report Cards Issued
- 14-18 **NO SCHOOL – Spring Recess**
- 21 MS PTO Meeting, 7 p.m.
- 24 MS/HS Jazz Night & Ziti Dinner @ HS
- 28 Board of Ed. Meeting @ MS LGI, 7 p.m.
- 30 **Grades 8: NYS Science Exams**

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