The Emerging Adult Brain

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Agenda

- What changes are taking place in the brain?
- What do these changes mean?
- How can we as educators and you as parents help support healthy development?
Brain Development

- Brain continues to develop well past childhood
- Neurons that fire together wire together
2 Growth Spurts

18 months

18 years

The Thinking Brain

Prefrontal Cortex

Judgment last to develop
The area of the brain that controls “executive functions” — including weighing long-term consequences and controlling impulses — is among the last to fully mature. Brain development from childhood to adulthood:

- 5-year-old brain
- Preteen brain
- Teen brain
- 20-year-old brain

Dorsal lateral prefrontal cortex (“executive functions”)

- Front
- Top view
- Back

Red/yellow: Parts of brain less fully mature
Blue/purple: Parts of brain more fully mature

Sources: National Institute of Mental Health; Paul Thompson, Ph.D., UCLA Laboratory of Neuro Imaging

Thomas McKay | The Denver Post

Executive Functions

- Organization
  - Attention
  - Planning
  - Problem Solving

- Regulation
  - Task initiation
  - Self-control
  - Emotion regulation
  - Decision-making
The Emotional Brain

The Limbic System

- Experience and expression of emotions
- Social awareness
- Pleasure ("dopamine squirt")
- Motivation
- Learning and Memory

Adolescent Brain Development

Steinberg’s 3 Phases of Adolescent Development

• Phase One: Starting the Engines
  – Puberty to ~14-17

• Phase Two: Developing a Better Braking System
  – ~15-20

• Phase Three: Putting a Skilled Driver Behind the Wheel
  – Early 20s
Four Features of Adolescence

1. Novelty seeking
2. Social Engagement
3. Emotional Intensity
4. Creative Expression

Adolescence Today
Myths about the adolescent brain

• Raging hormones make you act like you have lost your mind
• Adolescents need to “grow up” and act more like adults
• Emerging adults need to move from dependence to independence
Facts about the adolescent brain

• Increases in hormonal activity in specific areas of the brain
• Young adults are not yet fully ready to launch
• Emerging adults have to learn to separate and relate
  – From dependence to *interdependence*
This is Powerful
And scary

What is this like for them?

• The way they remember, think, reason, focus, make decisions and relate to others is changing
  – That can be confusing

• Everything they are expected to do is more complex
  – That can be anxiety provoking

• The things they could rely on in the past are not there for them in the same way
  – That can be frustrating
4 Features of Adolescence: The Ups and Downs

• Novelty Seeking
  – Builds resilience through openness to change
  – Prompts risk taking and impulsivity

• Social Engagement
  – Builds supportive and reciprocal networks with others
  – Prompts rejection of kind of “oppressive” parent-child relationships

• Emotional Intensity
  – Increases energy, motivation, exuberance, ability to do a lot
  – Can prompt impulsivity, moodiness, poor emotion regulation

• Creative Exploration
  – Allows them to think anything is possible and I can be the change!
  – Vulnerability to negative influences, lack of values clarity, inability to choose a path
How We Help at UVA

• Novelty & Social Engagement
  – Clubs, Multicultural Orgs, Greek Life, Leadership, Res Life, Student Activities, Etc.

• Emotional Intensity
  – Process Groups at CAPS, Residence Life, Social Activities

• Creative Exploration
  – Arts, Outdoors, plus Classes and Extracurriculars
How You Can Help: Novelty Seeking

Encourage them to try new things
How You Can Help: Social Engagement

Allow them to develop their own social life
How You Can Help: Increased Emotional Intensity

Encourage taking risks and seeking out support away from home
How You Can Help: Creative Exploration
A Final Word: Tolerating Difficulty

- Self-regulation is related to positive outcomes in multiple areas
- They need to experience failure and rejection
“The loving mother teaches her child to walk alone. She is far enough from him so that she cannot actually support him, but she holds out her arms to him. She imitates his movements, and if he totters, she swiftly bends as if to seize him, so that the child might believe that he is not walking alone….and yet she does more. Her face beckons like a reward, an encouragement. Thus the child walks alone with his eyes fixed on his mother’s face, not on the difficulties in his way. He supports himself by the arms that do no hold him and constantly strives toward the refuge in his mother’s embrace, little suspecting that in the very same moment that he is emphasizing his need of her, he is proving that he can do without her, because he is walking alone”

– Kierkegaard, 1846
To Learn More

**Brainstorm: The Power and Purpose of the Teenage Brain**
by Daniel J. Siegel

**Age of Opportunity: Lessons from the New Science of Adolescence**
by Laurence Steinberg

**The Mysterious Workings of the Adolescent Brain**
Ted Talk – Sarah Jayne Blakemore

**Insight into the Teenage Brain**
Tedx Talk - Adriana Galvan