

Cortical Brain Development: Childhood Through Early Adulthood

Rites of Passage: Tribal and Communal

Delois H. Smith

Vice President for Diversity

The University of Alabama in Huntsville

Licensed Professional Counselor (LPC)

The Adulthood Brain

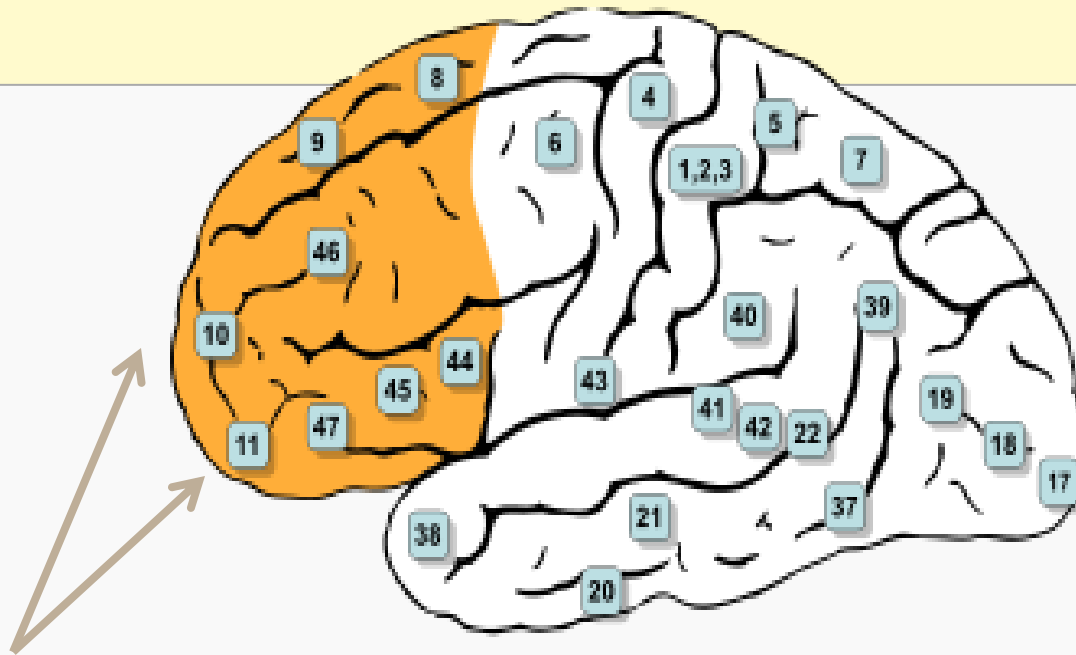


Cortical Brain Development

- ❖ Researchers used to think that most brain development took place during the first few years of life, ***but new findings have shown that during the teen years and into a person's twenties, important developmental changes are taking place.***
- ❖ Parts of the brain that help teens make decisions and control their impulses are still forming.
- ❖ Many characteristics of adolescence, such as mood swings, may be, in part, a result of brain development.
- ❖ Too much alcohol can damage or even kill neurons, perhaps changing the development of those parts of the teenage brain that are still forming.

<http://sciencenetlinks.com/interactives/alcohol/ebook/pages/brain.htm>

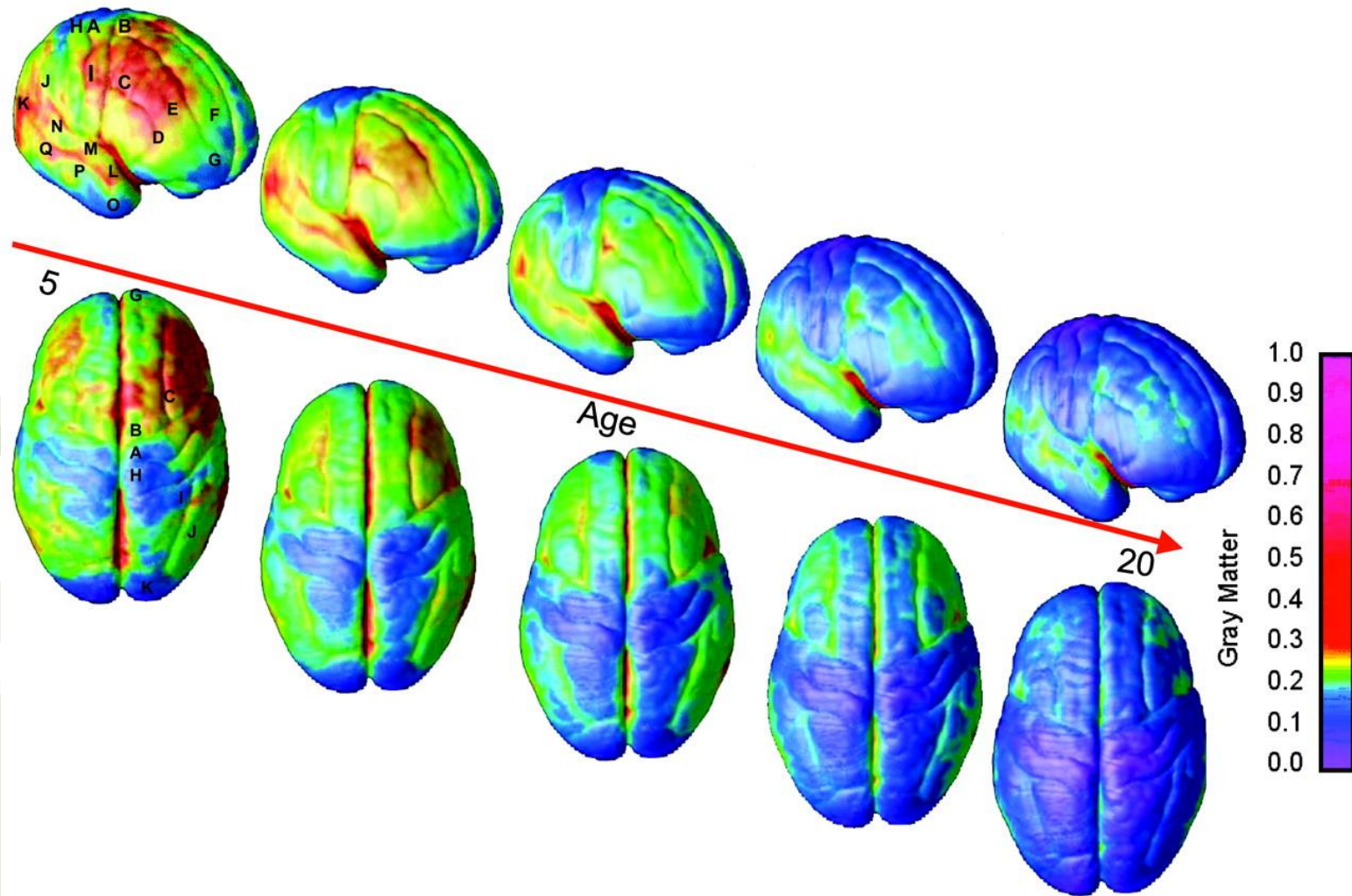
Prefrontal Cortex



Brodman areas #9, #10, #11, #12, #46, and #47 are all in the prefrontal cortex.

Executive Function relates to abilities to differentiate among conflicting thoughts, determine good and bad, better and best, same and different, future consequences of current activities, working toward a defined goal, prediction of outcomes, expectation based on actions, and social "control" (the ability to suppress urges that, if not suppressed, could lead to socially unacceptable outcomes).

Right lateral and top views of the dynamic sequence of GM maturation over the cortical surface.



Nitin Gogtay et al. PNAS 2004;101:8174-8179

Social Transitions and Rites of Passage

- In many societies there are clearly defined rites of passage from childhood into adulthood.
- In the U.S. passages are not clearly defined nor celebrated by “tribal” association or community.

Some Rites of Passage in the U.S.:

- ❖ High School graduation
- ❖ Turning a certain age (16, 18, and 21).
- ❖ Driver’s License.
- ❖ Moving out on your own.
- ❖ Religious and cultural specifics:
 - Bar/Bat Mitzvahs
 - Quinceaveras
- ❖ First sexual encounter
- ❖ Legal age to drink (19/21 years of age).

Alcohol

Central Nervous System (CNS) depressant.

C₂H₅OH (ethanol)

Dopamine agonist

GABA agonist

Glutamate antagonist

Mu opiate agonist

The Blood Brain Barrier



The brain is protected by the Blood-brain Barrier, which prevents or slows the passage of some drugs and other harmful substances from the blood into the central nervous system (CNS).

Alcohol, however, is able to penetrate the brain, because it can cross the blood-brain barrier.

<http://sciencenetlinks.com/interactives/alcohol/ebook/pages/brain.htm>

The Blood Brain Barrier



Because the **Prefrontal Cortex** is not mature, too much alcohol can harm a teen's ability to reason and weigh choices.

Instead, teens may do something simply because they think it may be fun or feel good regardless of later consequences.

Because connections between the prefrontal cortex and the ventral striatum are still maturing, alcohol can affect those connections.

<http://sciencenetlinks.com/interactives/alcohol/ebook/pages/brain.htm>

Alcohol

Let's create, glamorize, and make accessible, the perfect drug that would:

- ❖ DA agonist— “makes me feel good”
- ❖ GABA agonist— “chills me out”
- ❖ Glutamate antagonist— “forget my troubles”
- ❖ Mu opiate agonist— “takes away my pain”
- ❖ Supply it to an underdeveloped brain that cannot control limits.
- ❖ Targets the reward center of the brain; that wants more and more.
- ❖ Self-reinforcing
- ❖ And it as a Rite of Passage, supported by the “tribe” and community.

Put it all together: “Feel Good, Chilled Out, No Worries, No Pain and the perception of No consequences”.

Group Think/Pluralistic Ignorance

When a group makes faulty decisions because group pressures lead to a deterioration of “mental efficiency, reality testing, and moral judgment” .

Groups affected by groupthink ignore alternatives and tend to take irrational actions that dehumanize other groups.

A group is especially vulnerable to groupthink when its members are similar in background, when the group is insulated from outside opinions, and when there are no clear rules for decision making.

Group Think/Pluralistic Ignorance

Social Psychologist **Irving L. Janis** coined the term. Janis documented eight symptoms of groupthink:

1. **Illusion of invulnerability** –Creates excessive optimism that encourages taking extreme risks.
2. **Collective rationalization** – Members discount warnings and do not reconsider their assumptions.
3. **Belief in inherent morality** – Members believe in the rightness of their cause and therefore ignore the ethical or moral consequences of their decisions.
4. **Stereotyped views of out-groups** – Negative views of “enemy” make effective responses to conflict seem unnecessary.
5. **Direct pressure on dissenters** – Members are under pressure not to express arguments against any of the group’s views.
6. **Self-censorship** – Doubts and deviations from the *perceived group consensus* are not expressed.
7. **Illusion of unanimity** – The majority view and judgments are *assumed* to be unanimous.
8. **Self-appointed ‘mindguards’** – Members protect the group and the leader from information that is problematic or contradictory to the group’s cohesiveness, view, and/or decisions.

<http://www.theatlantic.com/national/print/2015/01/sex-and-drugs-and-high-school-but-also-social-psychology/384339/>

http://www.psych.org/about/pubs_resources/groupthink%20overview.htm

The Perfect Recipe for a Title IX Incident

Ingredients:

- 50 to 100 or more cognitively underdeveloped aduolescents.
- **Group Think**, proportional to each aduolescent.
- 1 or more fraternity, sorority, athletic or campus organization parties.
- An unlimited supply of beer, drugs and hard alcohol.
- No clear enforceable, consequential rules, regulations or procedures.

Mix Together:

- Add to the site location;
- The 50-100 aduolescents; beer, drugs and hard liquor—no need to measure portions, these are unlimited.
- Ration of 1 for 1 of Group Think.
- Stir vigorously and simmer for 8 to 12 hours.
- Then prepare to apply the unclear, unenforceable, non-consequential rules, regulations or procedures.
- Place in the Offices of the V.P. for Student Affairs, Dean of Students and Legal Counsel and turn up the heat to 600degrees.
- If done properly, your dish is bound to fall under the weight of administration, media, parents and the court of public opinion.

Umm, Umm; Not Good.

Lessons from Dartmouth College



U.S. Department of Education

U.S. Department of Education Releases List of Higher Education Institutions with Open Title IX Sexual Violence Investigations

May 1, 2014

<http://www.ed.gov/news/press-releases/us-department-education-releases-list-higher-education-institutions-open-title-ix-sexual-violence-investigations>

Dartmouth College President, Phil Hanlon, Responds:

Moving Dartmouth Forward: A Call For Change President Hanlon's Plan for Implementation

<https://www.dartmouth.edu/~president/forward/plan.html>

Lessons from Dartmouth College

“The system cannot continue to exist unchanged—our students understand that and understand the need to root out extreme behavior”.

“Moving forward, it will be simple: Individuals and organizations that choose not to fulfill these higher standards will not be a part of our community”.

Phil Hanlon '77
President

Lessons from Dartmouth College

We will...

- Fundamentally transform residential life.
- Promote a safer and healthier campus life.

--We will tackle the challenge of excessive drinking. Dartmouth will take the lead among colleges and universities in eliminating hard alcohol on campus. Dartmouth's new alcohol policy for students will prohibit the possession or consumption of "hard alcohol" (i.e., alcohol that is 30 proof or higher) on campus by individuals, including those over the legal drinking age, and the Dartmouth College-recognized organizations.

- Clarify and strengthen expectations of individuals and student organizations.
- Strengthen academic rigor while enhancing learning outside the classroom.
- Be accountable.

<https://www.dartmouth.edu/~president/forward/plan.html>