

ADOLESCENTS:WHAT ARE THEY THINKING?

Ottawa County Juvenile Court

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Do you know why teens act the way they do?
Test your knowledge.

1. Typical teenage behavior is the result of hormones, plain and simple.
☐ True ☒ False
2. Teenagers are not as capable of juggling multiple tasks as an adult.
☒ True ☐ False
3. Teenagers are far more interested in novelty than younger children or adults.
☒ True ☐ False
4. An effective way to deal with a teenager's inappropriate behavior is to shoot a warning glare in his/her direction.
☐ True ☒ False
5. Our weight-obsessed culture is the sole cause of anorexia.
☐ True ☒ False
6. The baffling behavior of teens is primarily a reflection of stubbornness and a need to assert their independence.
☐ True ☒ False
7. Teenagers need no more than 8 hours of sleep a night.
☐ True ☒ False
8. Teenagers who fall asleep in class should go to bed earlier.
☐ True ☒ False
9. Teen brains function more like those of children than those of adults.
☒ True ☐ False
10. The brain is fully developed structurally by the time a child reaches puberty.
☐ True ☒ False

CHILDHOOD DEVELOPMENT

Power of Being

0 - 6 months

(12-13 years)

Needs: Held, taken care of, safe
told they are beautiful, unconditional love

Symptoms: short attention span
dreamy
Checking themselves to see how they look

Building Blocks: need to learn to trust
unconditional love

Power of Doing

6-18 months

(13-14 years)

Needs: to explore world new levels of independence
variety of stimulation

Symptoms: pleasure oriented motivational problems
short attention span brain dev. is very rapid

Building Blocks: need to explore
- world need to be safe learn what they
- need to have alot of fun, experience not

Power of Thinking

18 mos - 3 yrs

(14 years)

Needs: sense of importance & to others, i.e.
find own limits + test realities
express negativity exert opinions forcefully

Symptoms: say no, I want, I must, Tantrums
want to oppose + be different, say no but

Building Blocks: need opportunity to test limits
(limit must be clear + firm) Comply,
Compelled + physically touch

Rich

Power of Identity

3 - 6 yrs

(15 yrs)

Needs: under 3, consequences are worthless
to figure out who they are - whose in charge
to test own power
to experience good & bad consequences

Symptoms:

sudden nameless fears, try something to see
nightmare, experiment with life, what happens

Building Blocks:

Curiosity + understanding consequences + relat.

Power of Being Skillful

6 - 12 yrs

(16-17 yrs)

Needs: make own mistake + figure out what
works, anger, disagree, bossed, need to belong to

Symptoms: preoccupied with how to do things at least 3
critical of others, my way or no way
learning how to be male or female, interested

Building Blocks:

in mechanics of sex
- ~~belonging~~ belonging to groups
- learning by trial & error

ADOLESCENTS: WHAT ARE THEY THINKING?

- The brains of teens are not like the brains of adults. They continue to change years after reaching full size. Teen brains more closely resemble the brains of younger children.
- In teens, the emotional centers (limbic system) are revved up, in hyper-drive, under the influence of sex hormones. The emotional centers, are the seat of raw emotions, like anger, fear, elation - gut reactions.
- The frontal cortex is one of the last parts of the brain to mature. It is the CEO of the brain, in charge of executive functions like planning, organizing, setting priorities, making sound judgements, handling ambiguous information, putting on the brakes by calming unruly emotions. The cortex is the seat of civilization, the "brain police". In adolescence, the cortex is asleep at the wheel.
- Amygdala - located in the midbrain (limbic system). Connected to the hippocampus. Plays a role in emotionally-laden memories. Contains a huge number of receptors for strong emotions. Mature at birth. Never forgets stored emotions, stored trauma. Activated when "your buttons are pushed".
- Limbic system - A group of connected structures in the midbrain, including the amygdala and the hippocampus. The limbic system is in hyper-drive in adolescence.
- Cerebral Cortex - 1/4" thick, outermost layer of cerebrum. It is wrinkled, 6 layers deep, packed with neurons. Cortex is the Latin word for "bark" or "rind".
- Dendrites - Strand-like fibers emanating from the cell body of the neuron. Similar to spider webs. They are receptor sites for axons when they connect to make a synapse. Each cell has many dendrites.
- Myelin - A fatty white shield that coats and insulates axons. Like the insulation on an electrical cord, it makes neurons more efficient and helps signals travel up to 12 times faster. Myelination is not complete in girls until the 20's and in boys not until around age 30.
- Dopamine - A powerful neurotransmitter involved in producing a positive mood or feelings of pleasure.

- Serotonin - A neurotransmitter, responsible for inducing relaxation, regulating mood and sleep. A mood stabilizer, which facilitates better social skills and behavior. Women average 20 to 40% higher levels than men. Serotonin declines in the teen years, making teens more impulsive.
- Surges of testosterone in both sexes swell the amygdala, causing a rise in aggression and irritability.
- The teen years are as important as the first 3 years of life in setting patterns for adult behavior. Even troubled teens can learn restraint, judgement, empathy.
- Sometimes we give up on kids early and think they are doomed for certain fates, but there are lots of opportunities for change during the teen years.
- The overproduction of connections (synapses) in infancy has a second occurrence in adolescence. This is a second window of opportunity, a second chance. In mid-teens the gray matter can double in one year.
- Good judgement is learned, but you can't learn it if you don't have the necessary hardware.
- New experiences, especially with an element of danger or thrill, stimulate neurons that link emotional centers to other parts of the brain, producing feelings of intense pleasure, as dopamine is released.
- The teen brain is a work in progress, far from mature. Neural circuitry (the hardware) is not completely installed until into the 20's.
- Excess synapses mean that a teen can't keep track of multiple thoughts. They can't gain instant access to critical memories and emotions.
- By age 18, the brain has a decline in plasticity but an increase in power, as a result of pruning - the loss of neurons which have not been hardwired by experience. USE IT OR LOSE IT! The brain nourishes what is useful. Pruning allows the brain to think more efficiently.
- Girls with eating disorders have higher than average levels of serotonin. People with high levels tend to be obsessive, anxious, perfectionists, "the best little girls in the world". Starving feels good because levels of serotonin are lowered by reducing nutrients necessary to serotonin production.

- The circadian timing system sets natural sleep and wake times, regulating sleep inducing melatonin. In adolescence, biological clocks change. Melatonin levels are elevated into the school-day - teens brains are telling them it's nighttime. Most teens are not chemically ready for sleep until 11PM or later. Hormones critical to growth and sexual maturation are released during sleep. Sleep is food for the brain. Teens need more sleep - an average of 9 hours and 15 minutes. Most teens are sleep deprived. They miss out on REM (rapid eye movement) sleep that boosts memory and learning. Without enough REM sleep, teens are cranky, depressed. Memory and judgement are impaired. They do poorly on reaction time tests.
- Human relationships are challenging and complex, stimulating and important to the brain. Adolescents watch approximately 23 hours of TV per week, 15,000 hours of TV by the mid-teens --more time than they have spent with teachers, friends, or parents.
- Adults often assume adolescents who look older have a better grasp of the consequences of their actions than they actually do.

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