Huge Emotions and the Adolescent Brain’

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In the Disney Pixar film Turning Red, we are introduced to a Chinese Canadian family and their deep love and loyalty to one another. Meilin, the main character, is a 13-year-old girl trying to establish adolescent independence and autonomy, while her mother is continually overprotective and hypervigilant, worrying about Meilin’s whereabouts, interests, and friends.

We are also introduced to Meilin’s best friends, who are empathetic and encouraging as she experiences huge emotions throughout the film. We see Meilin and her friends begin to transition from childhood into adolescence with numerous complications that many young people encounter during the early teen years but may not acknowledge or recognize during this significant time of brain development.

**THE ADOLESCENT BRAIN**

As educators, we are observing these middle school years up close, experiencing the often-chaotic emotional early-teen roller coaster that this second-greatest time of brain development ushers in. The brain is growing tremendously and pruning away connections between neurons as it prepares for efficiency and specialization in young adulthood.

During adolescence, there are also significant changes in the secretion and baseline levels of neurohormones. The adolescent brain contains lower levels of serotonin, which can contribute to increased aggression, along with higher levels of testosterone, which can also lead to angry outbursts and impulsive behavior. The baseline for dopamine, our feel-good/motivation neurotransmitter, is also lower, so more dopamine is required for a satisfying result.

Additionally, we know that the frontal lobes of the adolescent brain are still developing, and this is where our executive functions (problem-solving, logical decision-making, emotional regulation, and sustained attention) live, so that we need opportunities and practice filled with repetition to develop these skills.

If we are to engage this age group for learning, we need to meet them where they are with practices and discussion questions that are a part of our procedures and routines.

The adolescents’ jobs are to question authority and search for an identity that can connect with a sense of safe belonging and acceptance. Our nervous systems require feelings of safety and felt connection. As young people grow into these new roles and responsibilities mandated by their brain development, we need to understand how to cultivate these practices at the beginning or end of a day or class period.

The social loss we have seen in our students this past year from pandemic unpredictability and isolation is directly impacting the cognitive losses we are facing in our schools. We must address the feelings and sensations our students are carrying into our classrooms and schools because these impact academic and cognitive well-being.

**ACHIEVING EMOTIONAL REGULATION**

As we learn to recognize our own felt sensations, we can begin to acknowledge when they feel overwhelming. Emotional regulation does not just happen or develop without the experiences of another who can sit beside us and share their calm. Co-regulation is our biological priority, as the brain is a social organ, and we cannot survive without each other.

When a continuous stream of negative emotions hijack or override our frontal lobes, our brain’s architecture changes, leaving us in a heightened stress-response state where fear, anger, anxiety, frustration, and sadness take over our thinking, logical brains. Below are practices and prompts that provide rich discussion and outlets for our students to share how they are experiencing a situation.

It takes a calm adult to calm a child, and it’s extremely important that educators be in touch with our huge emotions. In a grade level or school, these questions provide a deepened understanding of how we can unintentionally escalate our students’ behavior with our huge emotions.

**Questions for educators**

1. What types of huge emotions are we carrying into our schools each day?

2. Do we have practices that feel regulating to our nervous systems so that we are not activated or triggered by the dysregulation seen in the student behaviors that push our buttons?

3. What types of huge emotions do we experience from our students in our classrooms?

4. How can we create awareness and check-ins of those emotions that serve us well and those huge emotions that can be disruptive?

5. Are we teaching our students about their neuroanatomy so that they understand why they feel the way they do?

1. During adolescence, there are significant changes in the secretion and baseline levels of \_\_\_\_\_\_\_.
2. The adolescent brain contains higher or lower levels of serotonin?
3. The difference in serotonin levels can cause what in adolescents?
   1. Enjoyed pleasure
   2. Increased aggression
   3. Better problem solving skills
4. Testosterone can be higher or lower during adolescence?
5. The baseline for dopamine, our feel-good/motivation neurotransmitter, is higher or lower?
6. Which part of the brain is still developing during adolescent years?
   1. Frontal lobe
   2. Temporal lobe
   3. Occipital lobe
   4. Parietal lobe
7. What is the forementioned lobe responsible for?
   1. problem-solving
   2. logical decision-making
   3. emotional regulation
   4. sustained attention
   5. All of the above
8. Our nervous systems require feelings of \_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_.
9. When a continuous stream of negative emotions hijack or override our frontal lobes, our brain’s architecture changes, leaving us in a heightened stress-response
   1. True
   2. False
10. We can still adequately help our students even if we can’t manage our own behaviors.
    1. True
    2. False
11. During adolescence, there are significant changes in the secretion and baseline levels of neurohormones
12. The adolescent brain contains higher or lower levels of serotonin?
13. The difference in serotonin levels can cause what in adolescents?
    1. Enjoyed pleasure
    2. Increased aggression
    3. Better problem solving skills
14. Testosterone can be higher or lower during adolescence?
15. The baseline for dopamine, our feel-good/motivation neurotransmitter, is higher or lower?
16. Which part of the brain is still developing during adolescent years?
    1. Frontal lobe
    2. Temporal lobe
    3. Occipital lobe
    4. Parietal lobe
17. What is the forementioned lobe responsible for?
    1. problem-solving
    2. logical decision-making
    3. emotional regulation
    4. sustained attention
    5. All of the above
18. Our nervous systems require feelings of safety and felt connection.
19. True
20. false