The Adolescent Brain

Out of Control Behaviors “N.I.P. It”

The Neuroscience of Emotional Regulation- Interventions and Strategies

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The prevention of Youth Substance Abuse begins with understanding the adolescent brain and providing resources to meet the emotional and social needs of the adolescent.
Your **Brain**...a 3 pound Universe!

You have at least 100 billion nerve cells called neurons in your brain. Each of these neurons connects with between 5,000 and 50,000 other neurons.

There are about one million billion (one quadrillion) connections in the cortex.
Hemispheric Processing

Left
- Convergent
- Linear
- Sequential
- Analytic
- Literal
- Historical
- Part to Whole
- Structured
- Detailed
- Reflective
- Organized
- Factual

Right
- Divergent
- Random
- Patterns
- Holistic
- Intuitive
- Timeless
- Whole to Part
- Integrated
- Visionary
- Spontaneous
- Multi-tasker
- Feeling

Analytic                          Global
Temperament Styles
Sensing Judging (SJ)

Learning Process
• Highly organized
• Needs routine and predictability
• Needs rules that are consistently enforced
• Asks What and How?
• Likes data
• Prefers written, detailed instruction of assignments
• Enjoys structured, sequential learning
• Need closure and summaries

38% of the Population

Stressors
• Abandonment and insubordination
• Unclear assignments
• Classroom ‘chaos’
• Unstable family or work environment
• No clear leadership and a sense of isolation

Discipline Issues
• Needs a stable authority
• Complains when environment is unpredictable
• Worries about family
• Will respond to loss of position or stature
• Becomes tired and depressed when common procedures are threatened

Praise and Esteem
• Need title and entitlement
• Recognition for product produced
• Needs hierarchy of rewards
• Needs consistency
• Like rules and structure
Temperament Styles
Intuitive Thinkers (NT)

Learning Process 12% of the Population
- Approach life Rationally
- Concerned about the ‘whys’ of things
- Need reasons for their actions
- Concerned about competencies and ‘doing it right’
- Appear unemotional or ‘cold’
- Relates simple tasks and concepts to larger complexities of life
- Need to know, control, predict, and explain
- Learns by investigation
- Prefers their own answers
- Sets high standards and continues to raise them for themselves

Stressors
- Powerlessness and incompetence
- Rigid environment
- Fear of Failure
- Questioning of their competence

Discipline Issues
- Questions authority
- Wants freedom to exercise curiosity
- May be hostile to those they feel have no reasonable basis for their actions
- When they experience a sense of personal failure
- Socially least bonded to group

Praise and Esteem
- Need power and sense of control
- Value competence and intelligence
- Need respect for their ability to design and see patterns
- Helpful to lower their personal expectations and celebrate their persistence
- Leave them alone to learn in an unstructured environment
- Need praise they think sounds logical and reasonable.
Temperament Styles
Intuitive Feelers (NF)

Learning Process
• Prefer the ‘Big Picture’
• Relationship oriented
• Value personal integrity
• Ask ‘Who’ rather than ‘Why’
• Value being ‘unique’
• Evaluate the emotional content of the information
• View issues from a personal position
• Enjoy group participation and discussion
• Need meaning behind an answer

Stressors
• Insincerity and betrayal
• Impersonal, unimaginative environment
• Isolation
• Conflict, hostility
• Lack of personal approval and recognition

Discipline Issues
• Usually non-confrontational
• Difficulty with anger and will disassociate from the group
• Hypersensitive to sarcasm and ridicule
• Need unconditional positive regard

Praise and Esteem
• Needs personal praise
• The values of what they do is based on what it means personally to them
• Need highly personalized feedback
• Need to be accepted for unique expressions and imagination
• Values being a member of the group

12% of the Population
Temperament Style
Sensing Perceiving (SP)

Learning Process
• Enjoy action and excitement
• Appreciate style and performance
• Learn by doing and moving
• Small group teams
• Spontaneous
• Likes variety
• Asks When and How?
• Hands-on activities
• Wants immediate feedback
• Competitive
• More responders than planners

Stressors
• Constraint
• Rigid routines and lack of variety
• Traditional, boring approaches
• Sitting quietly for long periods of time

Discipline Issues
• When bored will create excitement
• Admires boldness in peers and expects peers to do the same
• Can’t sit still for long stretches
• Don’t like their actions restricted to the ‘here and now’
• Indifferent to verbal reprimands
• Act out and take risks when they feel restricted or trapped

Praise and Esteem
• Like praise for their performance
• Want to be liked for the excitement and pleasure they bring to others
• Like immediate rewards
• Build on areas of interest and talent
• Like being competitors, producing, performing, and playing
• Allow freedom to act
• Want to make an impact
• Needs attention and feedback

38% of the Population
<table>
<thead>
<tr>
<th>Temperament Style</th>
<th>School Personnel</th>
<th>Student Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJ (Sensing Judging)</td>
<td>56%</td>
<td>38%</td>
</tr>
<tr>
<td>NT (Intuitive Thinker)</td>
<td>6%</td>
<td>12%</td>
</tr>
<tr>
<td>NF (Intuitive Feeler)</td>
<td>36%</td>
<td>12%</td>
</tr>
<tr>
<td>SP (Sensing Perceiver)</td>
<td>2%</td>
<td>38%</td>
</tr>
</tbody>
</table>

Please Understand Me: Character and Temperament Styles by Keirsey and Bates
The Adolescent Brain

- The adolescent brain is bombarded with more chemicals/hormones than at any other time during development.
- The adolescent operates from his ‘emotional’ brain rather than his ‘thinking’ brain a majority of the time.
- Social relationships, (a brain stem activity), are the most important concerns of the adolescent.
- AQ (Adaptability Quotient) is critical for success.
What is Emotional Regulation?

• The ability to identify emotions and emotional states
• The ability to use strategies to manage emotions
• The ability to respond appropriately to a situation
The Triune Brain
Paul MacLean’s theory of Brain Development

Human or Neomammalian (conscious)

The Brain Stem (Reptilian Brain)- Its primary concern is physical survival and life support. “Fight or Flight response” is housed in the brain stem.

The Limbic System (Leopard or Mammalian Brain)- Houses the centers of emotion. Procreation, socialization, and bonding needs are centered here. Plays a critical role in the storage of information in long-term memory.

The Cerebral Cortex (Human or Neomammalian Brain)- The seat of consciousness. It processes logical and formal operational thinking, it is where the world is organized and speech is produced and understood. It regulates abstract thought, hindsight, insight, and forethought.
Reptilian Layer
The Layered Brain and Learning

The Reptilian Complex – The Reptilian layer consists of the brain stem and cerebellum. Behaviors of this layer are very basic and highly resistant to change.

9 Behaviors of the Reptilian Complex

- Territoriality – establishing control in certain areas
- Preening or ritualistic display - causing attention to be focused on them
- Nesting behaviors - ‘fixing up’ their area, desk, locker, room
- Maintaining social hierarchies - ‘survival of the fittest’
- Mating rituals -
- Flocking behavior – “Birds of a Feather...”
- Isopraxic behaviors - Behaviors where people adopt the dress, beliefs, and mannerism of those around them. Appearing, behaving, and acting the same way makes it easier to be accepted and feel safe.
- Tropistic behaviors - a desire to be identified as part of a group, fraternities, sororities, etc.
- Deceptive Behaviors - drawing attention away from the real issue
Reptilian Needs

3 key teaching and parenting habits

• Routine and Boundaries- gives predictability and a sense of security
• Ceremony and ritual- gives a sense of accomplishment and need for belonging
• Repetition- meaningful, relevant, novel, and challenging tasks
Behaviors when stuck in the Reptilian layer

• Obsessive
• Compulsive
• Paranoia
• Difficulty learning from past mistakes
• Controlling
• Primitive Reflexes don’t integrate
The Layered Brain and Learning

• **The Limbic System** - The middle brain houses the emotional, attention, and affective memory centers

• Components of the Limbic System
  – Thalamus
  – Hypothalamus
  – Hippocampus
  – Amygdala

• The Limbic system
  – receives *all* stimuli (about 50,000 stimuli per second),
  – screens for ‘threat’, and
  – determines which layer of the brain will handle the information
Behaviors of the Limbic System

- Behaviors-
  - Helps determine positive or negative feelings towards something
  - Rationalizes desires
  - Impulsivity
  - Anger
  - Fear
  - Avoidance of pain and repetition of pleasure
  - Post Traumatic Stress disorder is housed in the Limbic System
  - Attachment issues
Teaching and Parenting the Limbic System

• 4 needs of the Limbic System
  - **Play** - important for problem solving skills, mimicking behaviors, and learning emotional responses
  - **Curiosity** - stimulates neuronal growth; occurs when exploring enriched and nurturing environments
  - **Caring** - feeling a connection to others; having a sense of belonging; feeling needed
  - **Passion** - channeling powerful emotions and feelings into productive and positive actions
The Layered Brain and Learning

• **The Neocortex** - the conscious level of the brain
  • Regulates abstract thought and problem solving.
  • It is where decisions are made, speech produced, art is interpreted, and the world is organized.
  • The neocortex makes it possible to have insight and plan for the future.
  • It takes up 2/3 of the total brain mass.
  • The cortex is divided into two hemispheres
The Neocortex

- Handles codes-
- Copes with change
- Manages complexity
- Compassion
What options do you have for dealing with out of control adolescents?
E.R. Manual

Developing Emotional Regulation in Out of Control Students

• N.I.P. It
  • Notice
  • Intervene
  • Plan
Preteach and Practice

The most effective time to work on Emotional Regulation Development is when a child is calm and before they are in an out of control situation.
When a student is Out of Control

• Remove student (or remove the class)
• Don’t engage in a power struggle
• Choose your battles (Ignore what you can)
• Give time to calm down
• Give a specific direction for identifying when a student is ready to talk – “I’ll know you are ready to talk when.......” (This gives the student a sense of control)
• Don’t ask a boy to use his words
When Student is Ready

- Listen
- Try to get a sequence of events
- Acknowledge without judgment
- Validate emotions
- Take notes
Introduce the brain

• Acknowledge that feelings can be powerful
• Ask questions like –
  – Have you ever been so angry that you can’t think?
  – Have you been so angry that you feel out of control?
• Explain that there is a physiological reason for feeling like that
The ‘Thinking’ Brain

• Have the student hold the brain
• Have the student feel the cortex outer area of the brain
• Identify this area as the ‘Thinking’ Brain
• Talk about how this is the area where you solve problems, do math, read, and think
The ‘Emotional’ Brain

• Have the student take the brain model apart
• Show the inner part of the brain and say “This is the emotional brain. This is where we have feelings like happy, sad, anger, fear, etc.”
• Point out the amygdala and have student repeat the word.
• This area lights up when we get really angry
The Power of the Emotional Brain

EMO

MR. T
The Emotional Thermometer

• Introduce the Emotional Thermometer by asking if the student knows what a thermometer is and what it does

• Say that this is an Emotional Thermometer and measures the intensity or strength of emotions

• A 0 is when you are feeling in a good mood, no anger

• A 10 is when you are furious and out of control
The ‘Switch’

• At ‘5’ on the Emotional Thermometer, the brain switches from the thinking, ‘in control brain’, to the emotional, ‘out of control brain’.
Out of control—Emotional Brain in control

Thinking brain in control
Have students identify where they are on the Emotional Thermometer

- Ask student where they are on the Emotional Thermometer
- This is an opportunity to assess a student’s ability to accurately identify the intensity of emotions
- There is no wrong answer
- Pre and Post assess
- Identify level for given situations
Cup and Rocks

• The brain has a limited amount of energy to give to emotional regulation
• Our brain is never devoid of emotions
• Label rocks, place in cup to demonstrate that when the cup is full of rocks, there’s no more room and like emotions, they overflow
• Talk about which rocks can be removed
Circle of Control

• Circle of Control – those events or actions over which you have control
• Help student identify those things over which they have control and those they don’t
Quotes

• *Emotions are like waves. We can’t stop them from coming, but we can choose which ones to surf.*

• *He who angers you controls you.*

• *Don’t make a permanent decision for a temporary emotion.*

• *Holding on to anger is like grasping a hot coal and expecting it to burn the other person.*
Importance Scale

• An Importance Scale is used to help students identify the importance of a given situation or incident
• A scale of 1-10 is used, with a ‘1’ being not important and a ‘10’ being worth fighting for
• Students who have trouble identifying what’s important from what’s not important
• Students react as if everything is at a ‘10’
Importance Scale

10
9
8
7
6
5
4
3
2
1
Dominoes

• Use dominoes to identify sequence of events
• Identify where something could have been done differently
Strategies
N.I.P. It

• **Notice** –
  – Teach students to identify emotions and emotional states
  – Help students identify ‘triggers’
  – Teach those involved with the student to notice behaviors, body language, and ‘triggers’
N.I.P. It

• **Intervene**-
  – Be proactive – prepare for the situation in which the student might have trouble
  – Know the ‘triggers’
  – Use strategies
    • Brain Gyms
    • Breathing
    • Heart Math
    • Sensory Motor Lab
    • ‘Cool Down’ center
    • Give a ‘heavy’ job
    • Journaling
    • Drawing
N.I.P. It

• Plan – Most situations are cyclic. It is most likely to happen again. Make a plan.

• Different from the strategy options during an emotional situation

• Build in incentives to promote success

• Examples of behavior contracts

• Role of the Importance Scale
**Weekly Goal Sheet**

Name ______________________  Week of __Sept. 15 - 19__________

Rating  3-Excellent  2- Mostly Accomplished  1- Somewhat Accomplished  0- Not Accomplish

<table>
<thead>
<tr>
<th>Goals</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I will follow directions without arguing.</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td></td>
<td></td>
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<tr>
<td>2. I will not disturb other classmates</td>
<td>AM</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>PM</td>
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<tr>
<td>3.</td>
<td>AM</td>
<td></td>
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<tr>
<td></td>
<td>PM</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
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</tbody>
</table>
Effort Indicator

10
9
8
7
6
5
4
3
2
1
Variables that contribute to Emotional Regulation

- Gender
- Learning Styles
- Teaching Styles
- AQ
- Early brain development
- Stress
- Adolescence
- Classroom environment
- Parenting
- Drugs
- Sensory Processing Disorder
Empower Parents and Teachers

- Classroom management and home expectations are important
- Classroom environment needs to be safe and nurturing
- Parents/Teachers need to understand the variables that contribute to out of control behavior
- Parents/Teachers need to be taught ‘observation’ skills
- Parents/Teachers need to be taught strategies for dealing with behaviors
For Further Information

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“The ability to manage the emotional brain is directly related to one’s ability to notice, intervene, plan, and practice.”

KW