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UNIVERSITY OF SOUTH FLORIDA

# Emotional/Behavioral Disorders: Neurobiological Perspectives on Assessment & Intervention

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GASP

OCTOBER 25, 2018

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"Real learning can't take place if teachers are occupied by a handful of unruly students."

Mayor Jon Mitchell
Chair *ex officio* of New Bedford's School Committee

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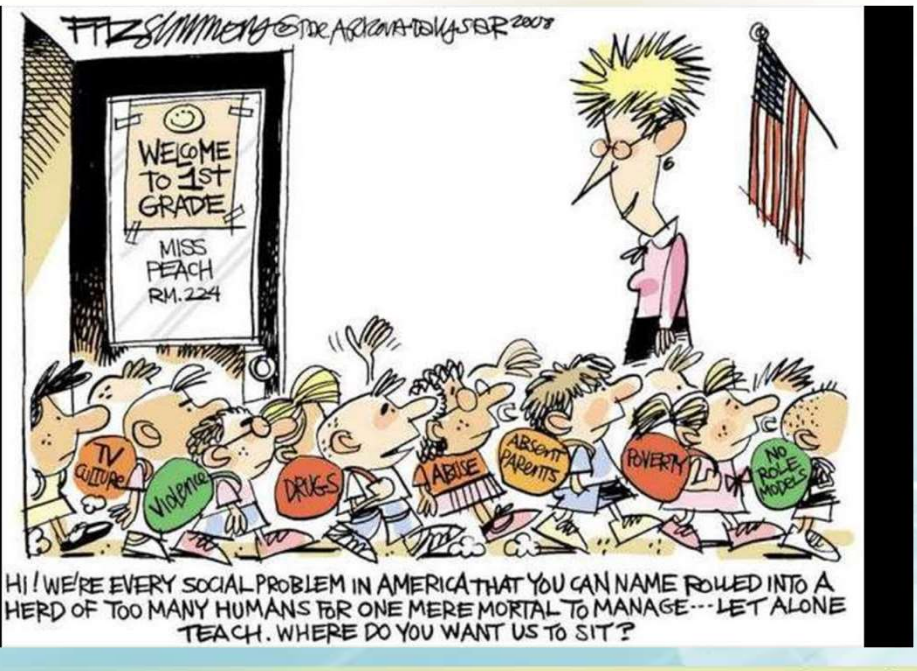


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## A TALE OF THREE MIDDLE SCHOOLS

| | TOTAL ENROLLMENT | REFERRALS |
|---|---|---|
| MS N | 1250 | 2300 |
| MS K | 900 | 3100 |
| MS R | 800 | 1960 |

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# TEACHER TIME LOST

TIME TO MAKE EACH REFERRAL

5 MINS 20 MINS 45 MINS

TEACHING TIME LOST TO REFERRALS

28 113 255

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# STUDENT TIME LOST

OVER A TWO YEAR PERIOD

TOTAL ENROLLMENT 3000

6650 DETENTIONS
1370 SUSPENSIONS

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# ANOTHER PROBLEM

20% - prevalence of 4D

most are not eligible

5% of students account for 50% of 4D behavior problems but

they absorb 60% a school's resources

**In the absence of effective interventions, teachers do the best they can**

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# DISCIPLINE REVOLVING DOOR?

MANY TEACHERS THINK SO

TWO CHALLENGES

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# CHALLENGE ONE: 4 D's

DISRUPTIVE

DISRESPECTFUL

DISOBEDIENT

DEFIANT

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# CHALLENGE TWO: THE 5TH D

DANGEROUS

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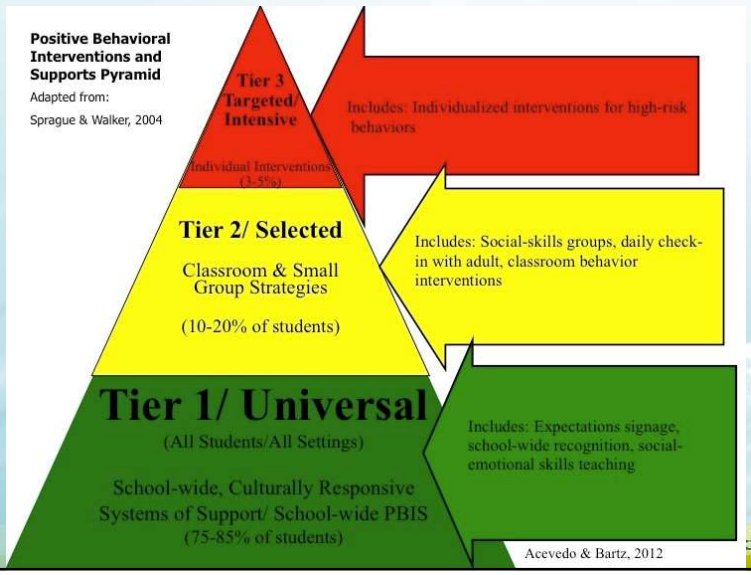
# PROPOSED SOLUTION

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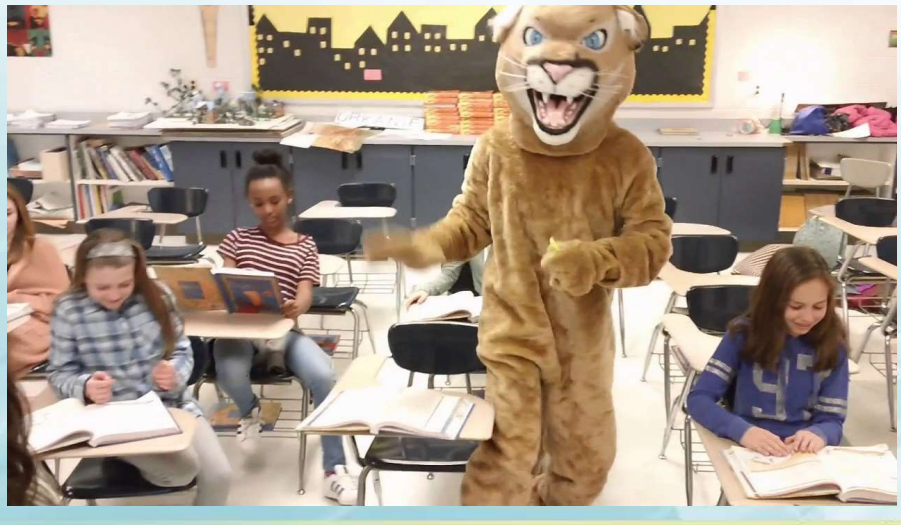
# HOWEVER



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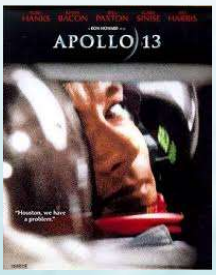
# HOUSTON, WE HAVE A 5D PROBLEM!!!!



ACTUALLY WE FACING ARE THREE PROBLEMS:

- disproportionality
- obsolete policies & definitions
- ineffective interventions

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# THREE PROBLEMS WITH THE 4 D'S

1. Disproportionality

2. P & P put schools and school psychologists in an untenable situation.

Universal Studios

3. What we're doing isn't working at any grade level.

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# Disproportionality

*Frequency and Racial Disparity*

School suspensions have risen steadily since the early 1970s, and racial disparities have grown considerably as well.[28]

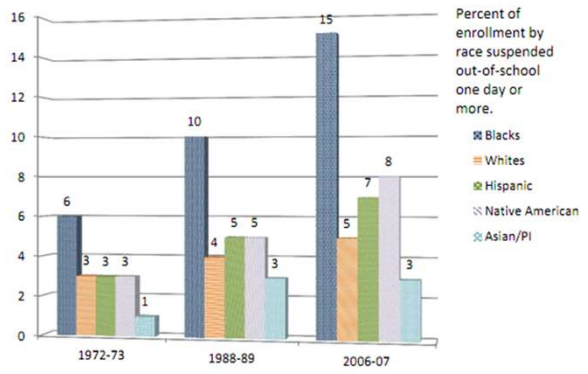


**Figure 1. Racial Impact of the Rising Use of Suspension[29]**

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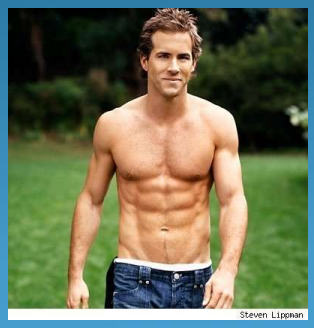
# Problem 2: Definition



## THE STRANGE CASE OF ED

Developed by Bowers in 1957; published in 1981… .

Original Definition: The Emotional Disturbance had to be SERIOUS and students had to DEMONSTRATE:

- an inability to learn
- an inability to maintain relationships
- inappropriate behaviors or feelings
- pervasive unhappiness/depression
- physical symptoms or fears

## AND THEN….

For some (inexplicable) reason, Bowers added this exclusionary clause:

"The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed."

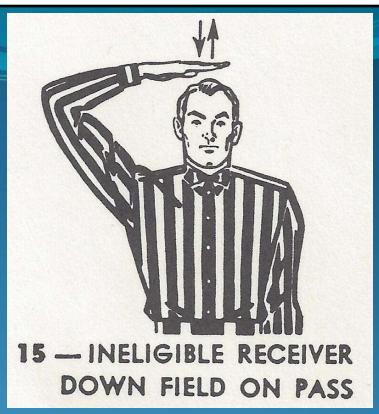
# FEDERAL DEFINITION

Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers. (C) Inappropriate types of behavior or feelings under normal circumstances. (D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems. (F)

# GA DEPARTMENT OF EDUCATION

- An inability to build or maintain satisfactory interpersonal relationships with peers and/or teachers. For preschool-age children, this would include other care providers.
- An inability to learn which cannot be adequately explained by intellectual, sensory or health factors.
- Consistent or chronic inappropriate type of behavior or feelings under normal conditions.
- Displayed a pervasive mood of unhappiness or depression.
- Displayed tendency to develop physical symptoms, pains or unreasonable fears associated with personal or school problems.

# GA INELIGIBLE




The term does not include children with social maladjustment unless it is determined that they are also children with EBD. A child whose values and/or behavior are in conflict with the school, home or community or who has been adjudicated through the courts or other involvement with correctional agencies is neither automatically eligible for nor excluded from EBD placement. Classroom behavior problems and social problems, e.g., delinquency and drug abuse, or a diagnosis of conduct disorder, do not automatically fulfill the requirements for eligibility for placement..

# 1957: Bower's Formulation

**Not much has changed in more than half a century.**

# SOCIAL MALADJUSTMENT

So, SM infers that students with behavior problems CAN control their behavior, but they are choosing not to. In addition to being outdated,

This puts us perilously close to:

If you have an **INTERNALIZING** disorder (depression, anxiety, or even fears) you have an Emotional Disorder (involuntary deviance).

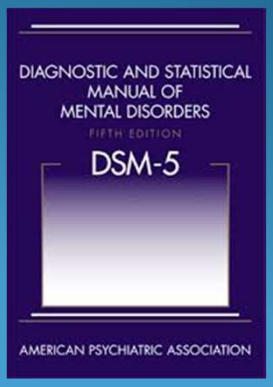
If you have an **EXTERNALIZING** disorder (ADHD, ODD, CD) you have a Behavior Disorder (voluntary)

# PROBLEM 3. FAILURE TO ACKNOWLEDGE

20%-25% OF K-12 STUDENTS MEET DIAGNOSTIC CRITERIA.

DO WE ACKNOWLEDGE THEM?
DO WE USE EVIDENCED BASED?
ARE INTERVENTIONS EFFECTIVE?
ARE INTERVENTIONS APPROPRIATE?

AND WHAT ABOUT ACES?



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## Children's Mental Health

- **25%--**k-12 who meet diagnostic criteria for mental illness.
- **5,000,000**--children and adolescents in the U.S. suffer from a serious mental disorder that causes significant functional impairments at home, at school, and with peers.
- **80% --** fail to be identified and to receive treatment
- **6 – 8 years** – from onset to treatment for mood disorders (8.38 years for BPD)
- **9 -23 years** – from onset to treatment for anxiety disorders

Information obtained from National Alliance on Mental Illness web site Aug. 2007

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## THE 10 ADVERSE CHILD EXPERIENCES

1. Physical abuse
2. Emotional abuse
3. Sexual abuse
4. Physical neglect
5. Emotional neglect
6. Alcohol or drug abuse by a parent
7. Mentally ill parent
8. Divorce
9. Incarceration of parent
10. Childhood Domestic Violence

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# THE CHALLENGES

## IT'S MORE THAN SM or ED or BD

## MORE THAN BEHAVIOR

six children with fever…

While the morphology of a behavior may be the same, explanations for a behavior can be vastly different.

**DIFFERENT EXPLANATION = DIFFERENT INTERVENTION.**

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# BEYOND TIER II, IT'S MORE THAN BAD CHOICES

- Disruptive Behavior Disorders
- Autism Spectrum Disorders
- Anxiety Disorders
- Mood Disorders
- Psychotic Disorders
- Adjustment & Attachment Disorders
- Post Traumatic Stress Disorder
- Abuse and Neglect
- Substance Abuse Disorders
- ACES

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# THE RELATIONSHIP BETWEEN DMS V INTERNALIZING DISORDERS AND BRAIN FUNCTION

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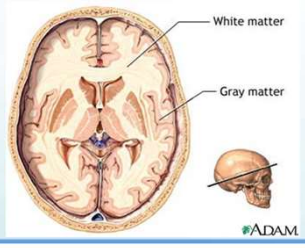
## SCHIZOPHRENIA

**Structural** – enlarged ventricles; decreased volume of gray and white matter; smaller hippocampus and amygdala

**Functional** – decrease blood flow and metabolism in frontal lobes

**Neurochemical** – too much Dopamine to the PFC



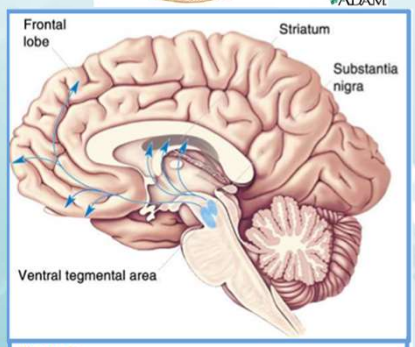




Figure 4:
"The dopaminergic diffuse modulatory systems of the brain: The mesocorticolimbic dopamine system arises in the ventral

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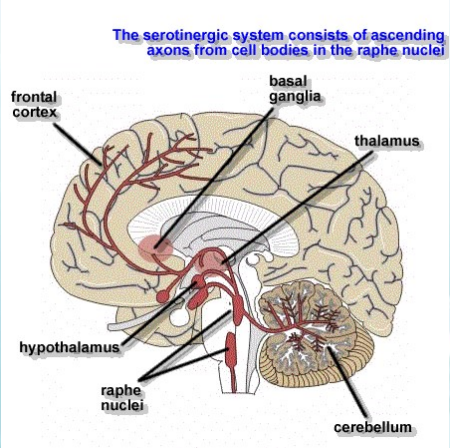
# DEPRESSION

## CHEMICAL

SEROTONIN

- Mood
- Emotion
- Sleep
- Appetite

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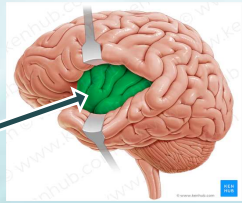
# ANXIETY

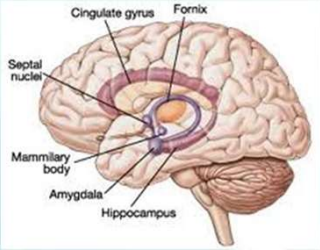
**Most Anxiety Disorders result from exaggerated fear response**

**STRUCTURAL**

Amygdala

Insula






**CHEMICAL (Limbic Dysregulation)**

serotonin depletion
excessive glutamate (excitatory neurotransmitter)
insufficient GABA (inhibitory neurotransmitter)
release of cortisol & adrenaline (increased arousal)

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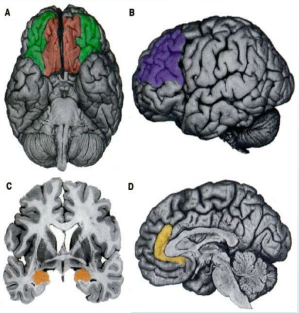
# OCD




**Functional**. Hypermetabolism in the left orbital-frontal cortex over-stimulates the "worry circuit"

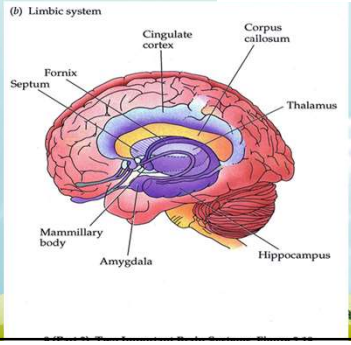
- caudate nucleus. – thought switching
- cingulate gyrus – dread
- thalamus – proc. sensory inputs

**Anatomical**

- Smaller dorsal anterior cingulate
- Smaller right anterior insula

**Neurochemical**

- reduced serotonin

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# DSM V EXTERNALIZING DISORDERS AND BRAIN FUNCTION

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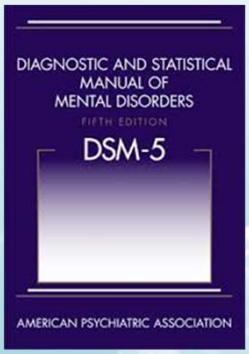
# EXTERNALIZING DISORDERS

Disruptive Disorders, Impulse-Control, and Conduct Disorders

- Oppositional Defiant Disorder
- Intermittent Explosive Disorder
- Conduct Disorder
  - Child Onset
  - Adol Onset
- ADHD
- Pyromania
- Kleptomania
- Other Specified
- Unspecified

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ARE THESE REALLY JUST ABOUT BAD CHOICES?

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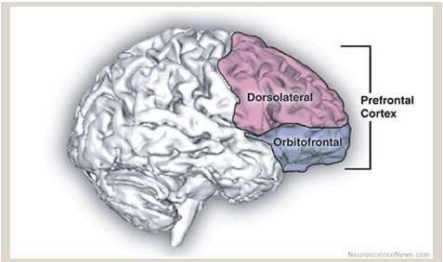
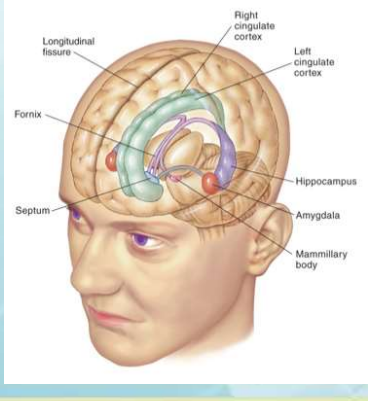
# TWO COMPETING REGIONS

**PREFRONTAL CORTEX (altricial)**




By watching individual neurons at work, a group of psychologists at the University of Wisconsin-Madison has revealed just how stress can addle the mind, as well as how neurons in the brain's prefrontal cortex help "remember" information in the first place.

**LIMBIC SYSTEM (precocial)**

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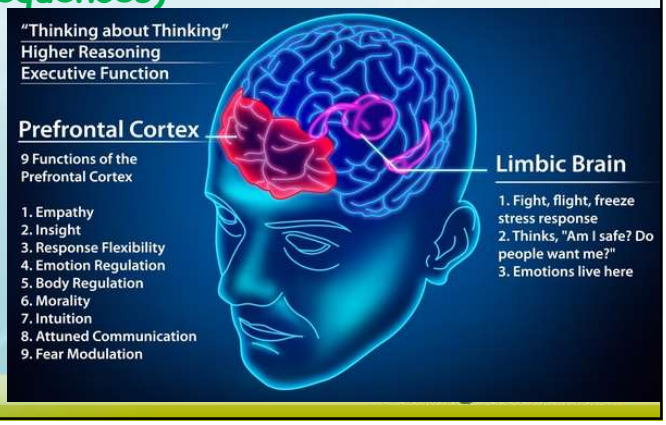
# Frontal Lobe Functions

- **Cognitive Functions**
  - anticipation (of consequences)
  - organization/planning
  - working memory
  - decision-making
- **Affective Functions**
  - emotional expression
  - emotional inhibition



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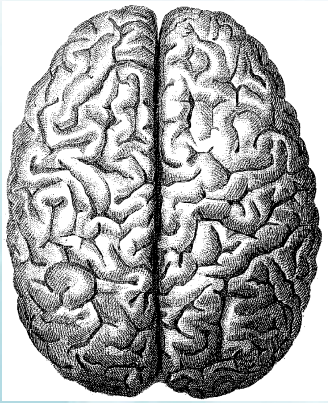
# PREFRONTAL CORTEX

Selects goals & how to achieve them.

- ✓ Hypoactivation of left PFC is linked to **depression**.
- ✓ Hypoactivation of right PFC Linked to disinhibition **(ADHD)**.



**11% reduction in PFC in APD**
**17% reduction in PFC in TLE with IED**

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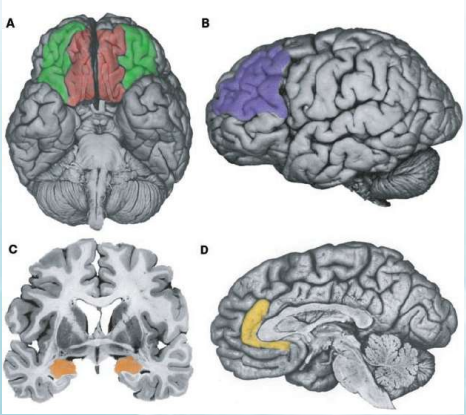
# VENTROMEDIAL PREFRONTAL CORTEX

Cost-benefit analysis based on our FEELINGS about what is happening. **An emotional assessment**

Lesions to VMPFC result in insensitivity to future consequences and impaired decision making.

Children with EOBPD show increased activation in VMPFC when viewing emotional pictures.

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