**Brain Bits**

Medial Preoptic Area – sexual pursuit: 2.5x larger in males

Temporal Parietal Junction – solution seeker: online faster and more active in males

Dorsal Premammillary Nucleus – defend turf, one-upmanship, fear, aggression: larger + special circuitry sensitive to potential threats

Amygdala – alarm system: larger, > testosterone,

Rostral Cingulate Zone – barometer of social status/approval, clues when go too far also masks emotions

Ventral Tegmental Area – motivation center: larger but takes more to activate it

Mirror Neuron System – empathy: smaller

Anterior Cingulate Cortex – worry/fear of punishment: smaller + T decreases concern about punishment

Prefrontal Cortex – thinking/good judgment: not mature until early 20’s

**Who’s Who of Hormones**

Testosterone – Zeus – dominant, aggressive, all-powerful

Vasopressin – White Knight – gallant, monogamous, protective, defending turf/mate/children

Mullerian Inhibiting Substance (MIS) – Hercules –strong, tough, fearless

Oxytocin – Lion Tamer – calms, increases empathy, trust, attachment, decreases stress

Prolactin – Mr. Mom – stimulates connections in brain for paternal behavior and decreases sex drive

Androstenedione – Romeo – pheromone of attraction

Dopamine – The Energizer – intoxicating, addictive feel-good hormone – rush of reward

Estrogen – The Queen – runs many of the male brain circuits, can increase the desire to cuddle and relate by stimulating oxytocin

**Characteristics** of Teen Boys as a result of brain structure and chemistry

Sleep –

Boredom –

Anger –

Hiding Emotions –

Tuning Out –

Fitting In –

Show of Strength –

Winning v Losing –

Social Ranking –

Boy Banter –

Squirming –

Undeveloped Social Skills –

Not yet Mature –

**Biological Profile**

Increased irritability

Sex on the brain – distracting and sometimes distressing

Increased perception of threats

Pecking order paramount

Looking for a fight, Posture and Bluff

Want to be dominant or near top of pecking order

Will exploit perceived weaknesses in others - bully

Want to save face

Really are under-stimulated (BORED)

Tune you out – white noise

Twice as risky/impulsive with peers

Need time to process information (alone -> group)

Must move

Must move to learn well – circuitry fires even when thinking of action

Needs frequent release of built up tension

Clumsy social skills

Bad judgment – act first, think?

Activating System On full blast Braking System Not there yet

Amygdala Prefrontal Cortex

Impulsive not mature/crappy

Reactive until early 20’s

Hyped

**Needs of Boys**

Maslow’s Hierarchy of Needs

1. Biological and Physiological needs - air, food, drink, shelter, warmth, sex, sleep, etc.

2. Safety needs - protection from elements, security, order, law, limits, stability, etc.

3. Belongingness and Love needs - work group, family, affection, relationships, etc.

4. Esteem needs - self-esteem, achievement, mastery, independence, status, dominance, prestige, managerial responsibility, etc.

5. Cognitive needs - knowledge, meaning, etc.

6. Aesthetic needs - appreciation and search for beauty, balance, form, etc.

7. Self-Actualization needs - realizing personal potential, self-fulfillment, seeking personal growth and peak experiences.

8. Transcendence needs - helping others to achieve self-actualization.

Bonding and Attachment

Within patrols

With other adults - mentors

With community

With less fortunate

Assurance

Belonging

Being good enough

Being able to figure life out

Room and Support

To explore

Make mistakes

Make amends

Fall apart

Reassemble

Blow off energy/steam

Protection

From torment from the ‘top’

From parents

While they develop

Help and Guidance

Dealing with emotional stress

Applying ‘Brakes’

Striving to Achieve

Freedom v Imposed Order

Need balance

**Boys Also Need**

More movement – while talking, while practicing, while learning

More processing time

Place/time to practice, practice, practice, but in a fun way

Room to explore, experiment and reflect

Opportunities to fail

Opportunities to recover and save face

Activities that are engaging/fun

Active adult involvement

Resources

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