



# THE BRAIN OF A GIRL

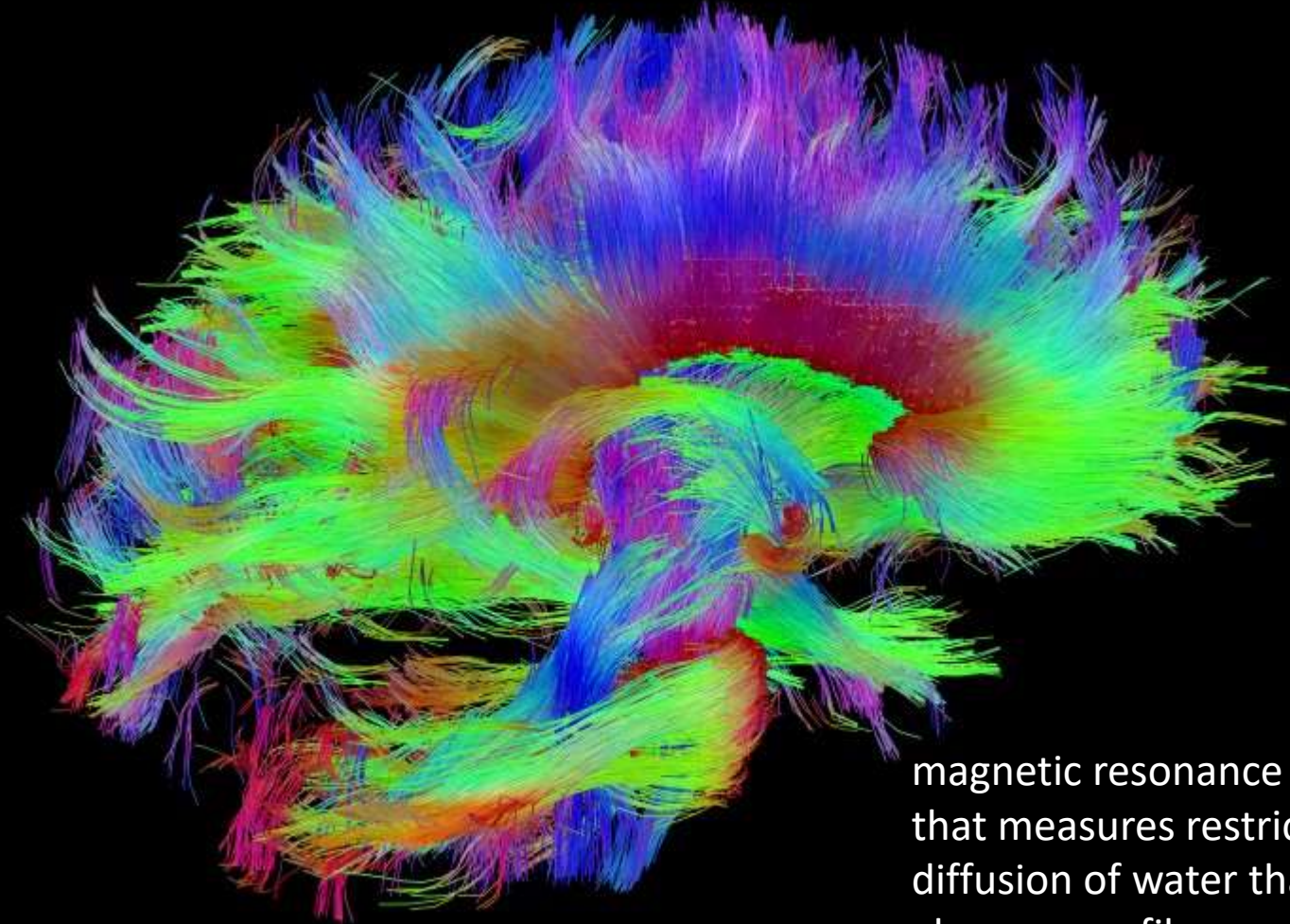
## *THE BEST WIRED BRAIN OF ALL*

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Chairman of the Institute of Electrical and Electronics Engineers Buenaventura Section

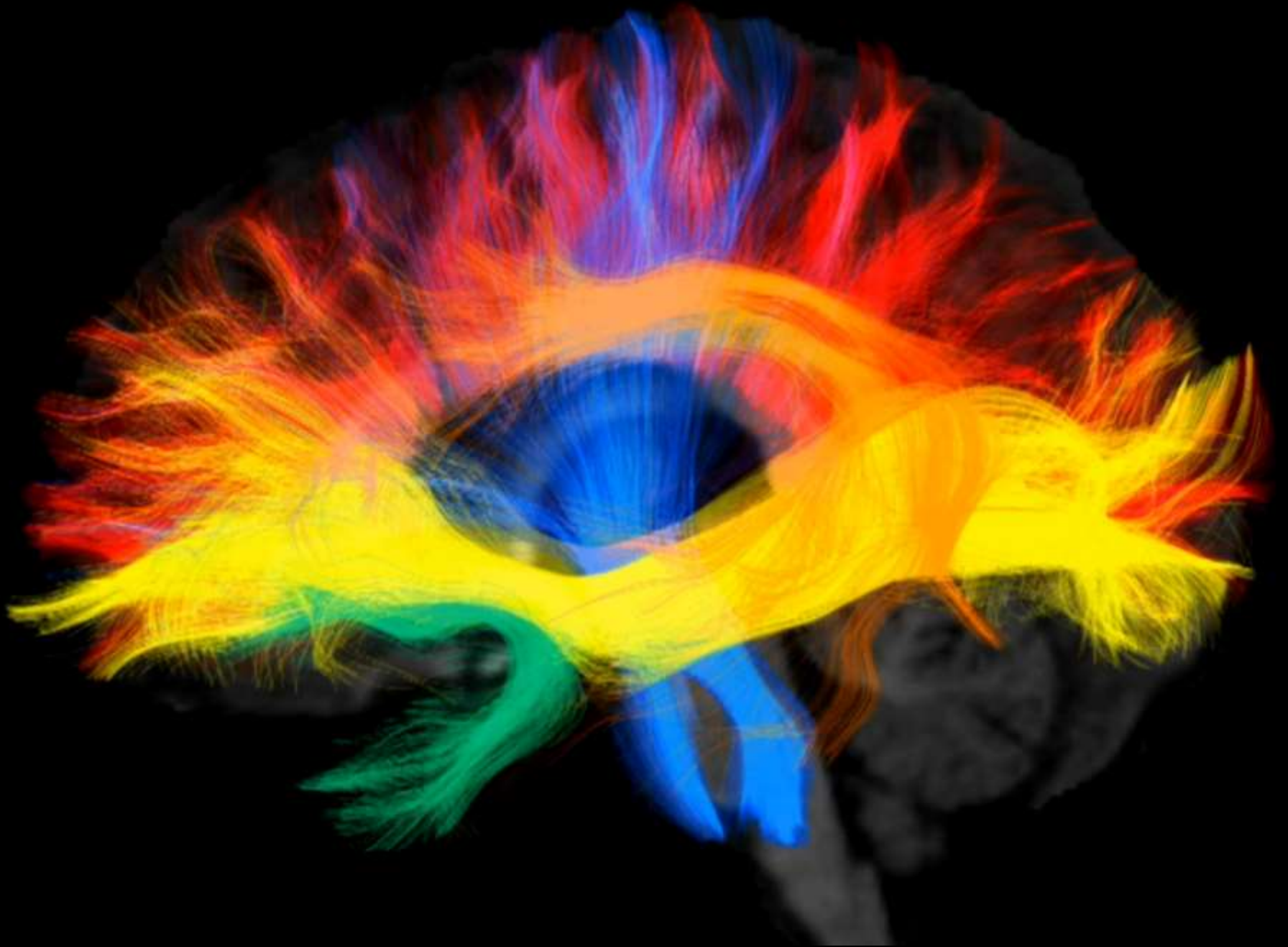
[gosset@ieee.org](mailto:gosset@ieee.org)

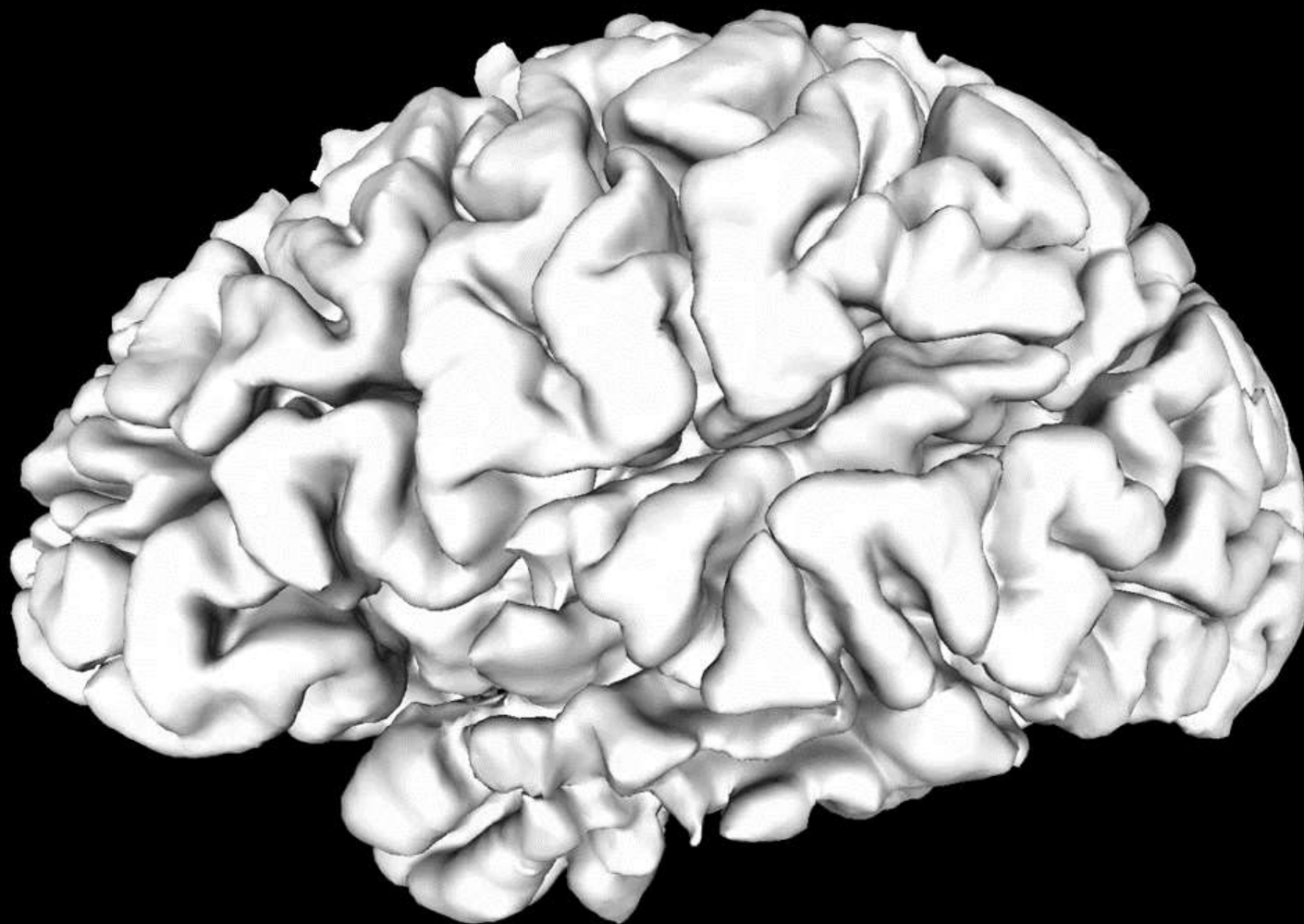
# Diffusion Tensor Imaging of the Brain



magnetic resonance imaging  
that measures restricted  
diffusion of water that moves  
along nerve fibers

*Source: The Human Connectome Project*





# **Inside** the Connectome

**We are starting** to answer  
some of the big questions

# DO WE USE ONLY 10% OF OUR BRAIN?



**10% LOADED**

**ERROR: UNABLE TO LOAD MORE**

**NO**

# CAN WE ACCELERATE HOW WE LEARN

Such as  
Math, Science, ...



# YES

# IS THERE A RECIPE TO BRAIN LONGEVITY?



**YES**

ERROR  
TUNE UP NEEDED



# IS THERE A GENDER ADVANTAGE ?

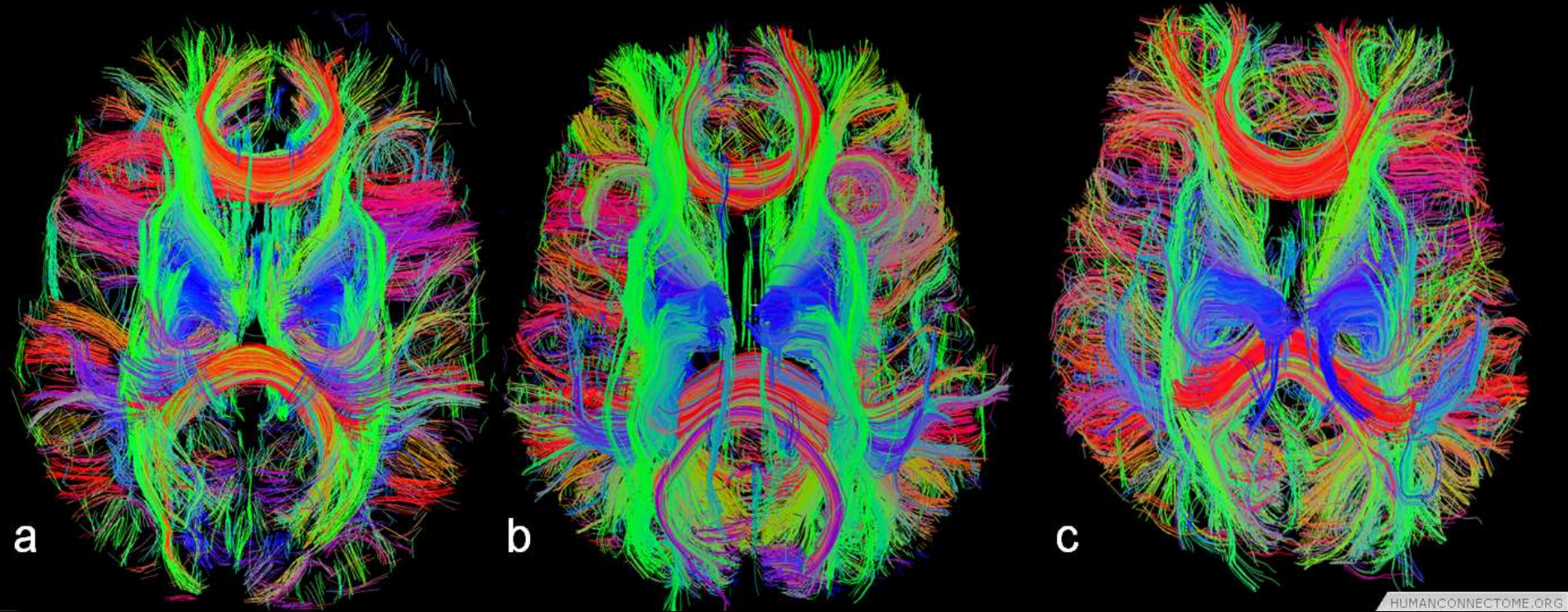


**YES**

25.3 min

11.5 min

8.4 min



We use a lot more than 10% of our brain

Source: *The Human Connectome Project*

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# ONE MEMORY IS STORED IN THOUSANDS OF PLACES





# FEELINGS ENABLE BEST MEMORY STORAGE & RETRIEVAL

# PHYSICAL SENSES DEEPEN THE GROOVE

1



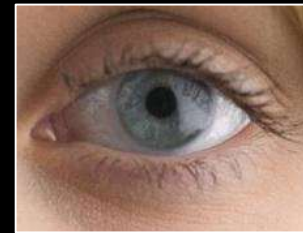
2



3



4



5



# TO MEMORIZE MORE EASILY



INVOLVE YOUR FEELINGS  
AND EMOTIONS



INVOLVE YOUR SENSES

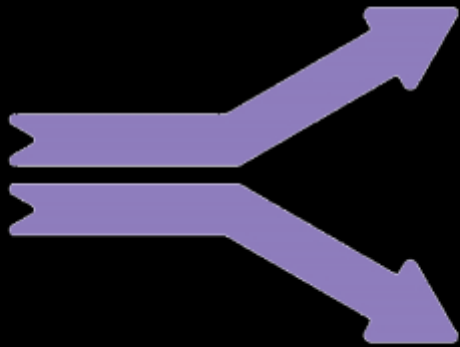
# Striking Differences Between Women & Men



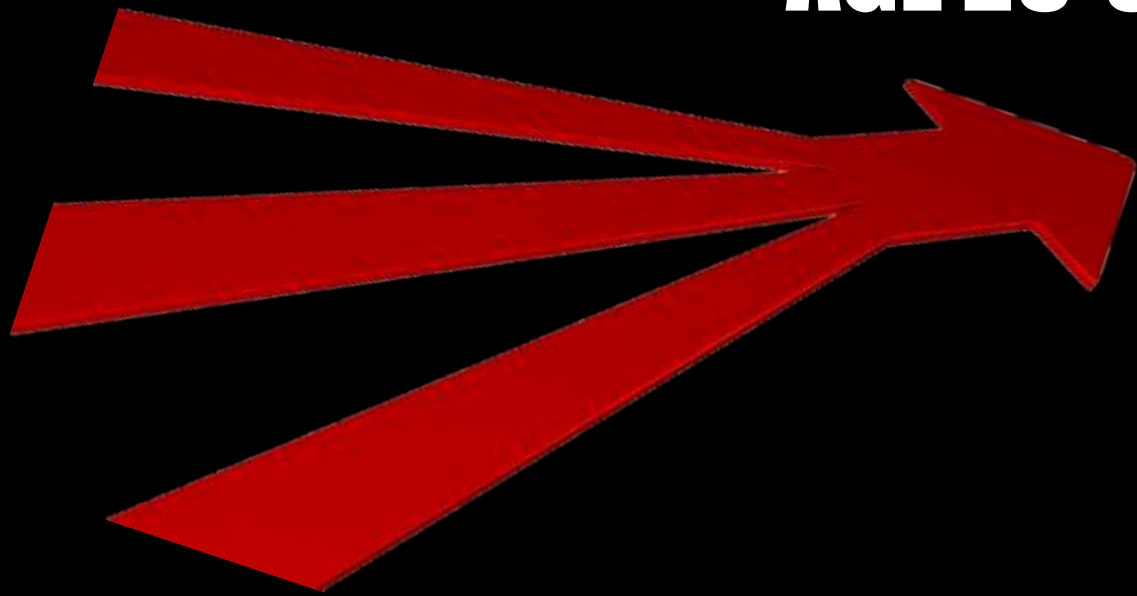
*(Reported by Penn Medicine, Proceedings of  
National Academy of Sciences, 2013)*

# **SAME ARRIVAL POINT - DIFFERENT LEARNING TRAJECTORIES FOR BOYS AND GIRLS**

**~ EARLY AGE**

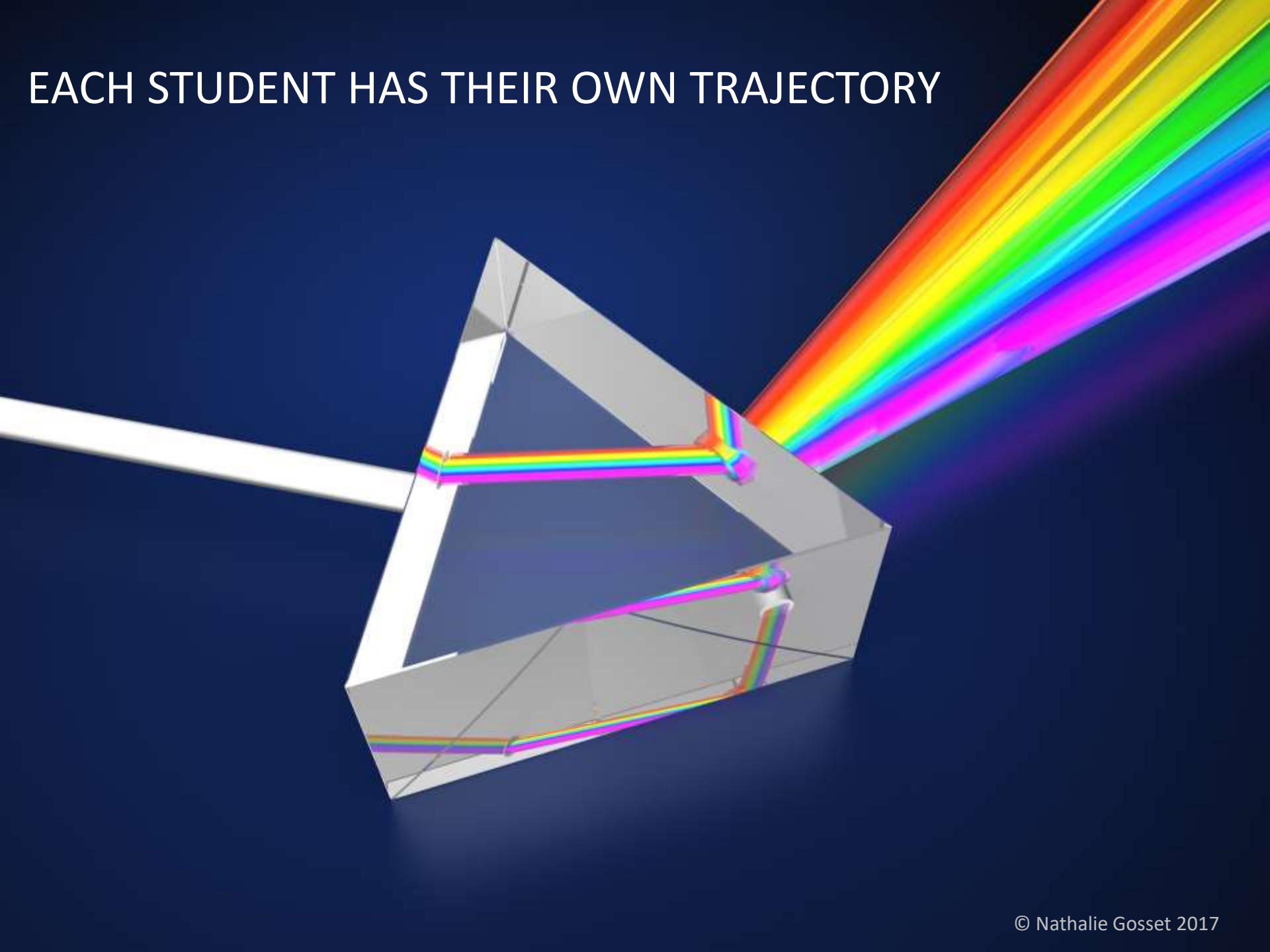


**~ AGE 25-30**





EACH STUDENT HAS THEIR OWN TRAJECTORY





# LEFT & RIGHT BRAINS



## LEFT

LOGICAL  
SEQUENTIAL  
RATIONAL  
ANALYTICAL  
OBJECTIVE  
LOOKS AT DETAILS



## RIGHT

RANDOM  
INTUITIVE  
HOLISTIC  
SYNTHESIZING  
SUBJECTIVE  
BIG PICTURE

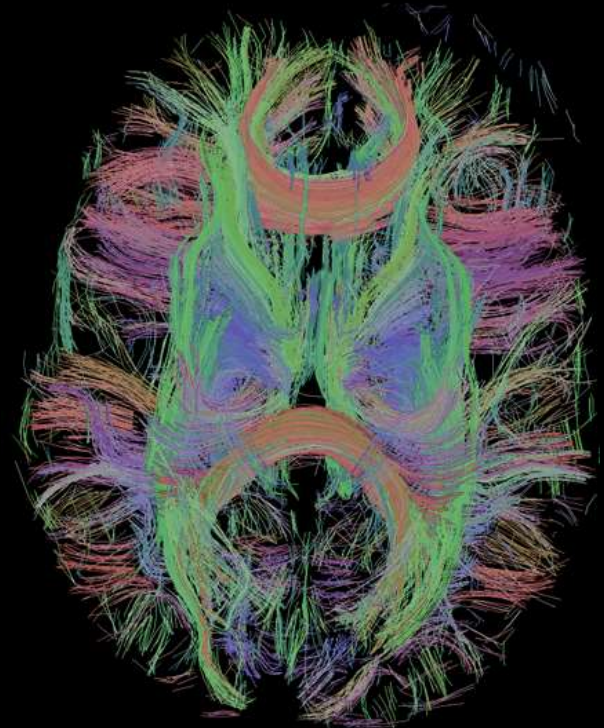
*Differentiation established by American psycho-biologist Roger W Sperry, 1060's*

**EXPERT THINKING**  
**MANAGEMENT**

**STRATEGIC THINKING**  
**LEADERSHIP**

# Teen Female Brain

WIRED TO GO BACK AND FORTH LEFT-RIGHT EARLY IN LIFE



WIDER BRIDGE

360 CORRELATION OF DATA  
ELOQUENCE  
PERCEIVED MATURITY

National Institute of Mental Health

© Nathalie Gosset 2016

STEM

A

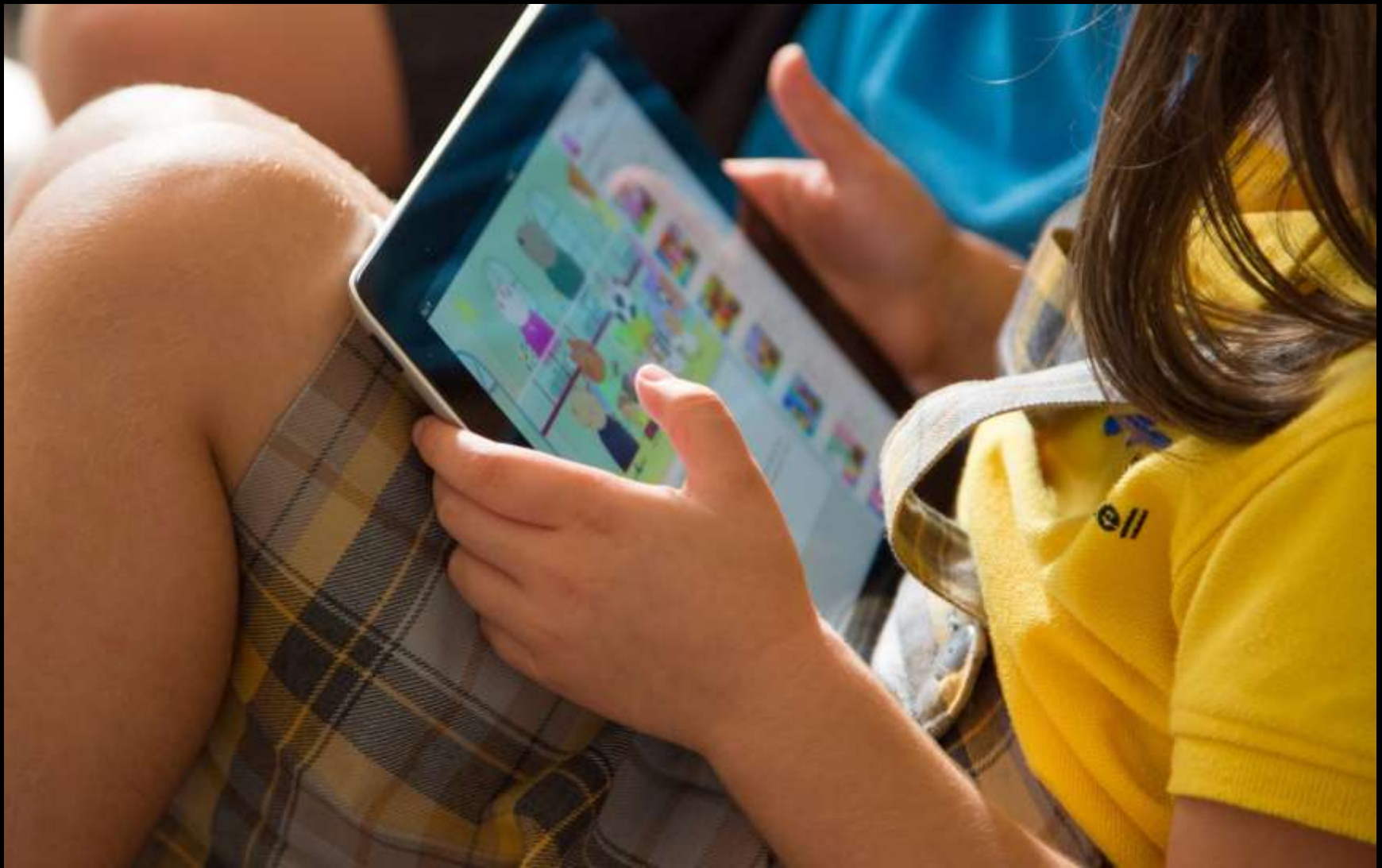
# **Your Female Brain has an accelerator for learning**



**Mirror Neurons**

EMOTION READER  
GREATER EMPATHY

**ACCELERATOR**  
OBSERVE → THEN DUPLICATE



# **Your Female Brain** **Learns fast by watching videos**

FRONT  
DEVELOPS FASTER  
ADVANCED SKILLS  
ELOQUENCE  
MATURITY  
CONTROL  
STRATEGIC



**Your Female Brain**  
**Understands Consequences Earlier**

*Madhura Ingahalikar, University of Pennsylvania, Philadelphia, 2014*

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**WIRED TO BE A STRATEGIC THINKER  
... 4 YEARS EARLIER THAN BOYS**





# EMOTIONAL INTELLIGENCE

BORN WITH A BRAIN DESIGNED  
FOR **TOP PERFORMANCE**

# Teen Male Brain Has Visual-Spatial Intuition Earlier

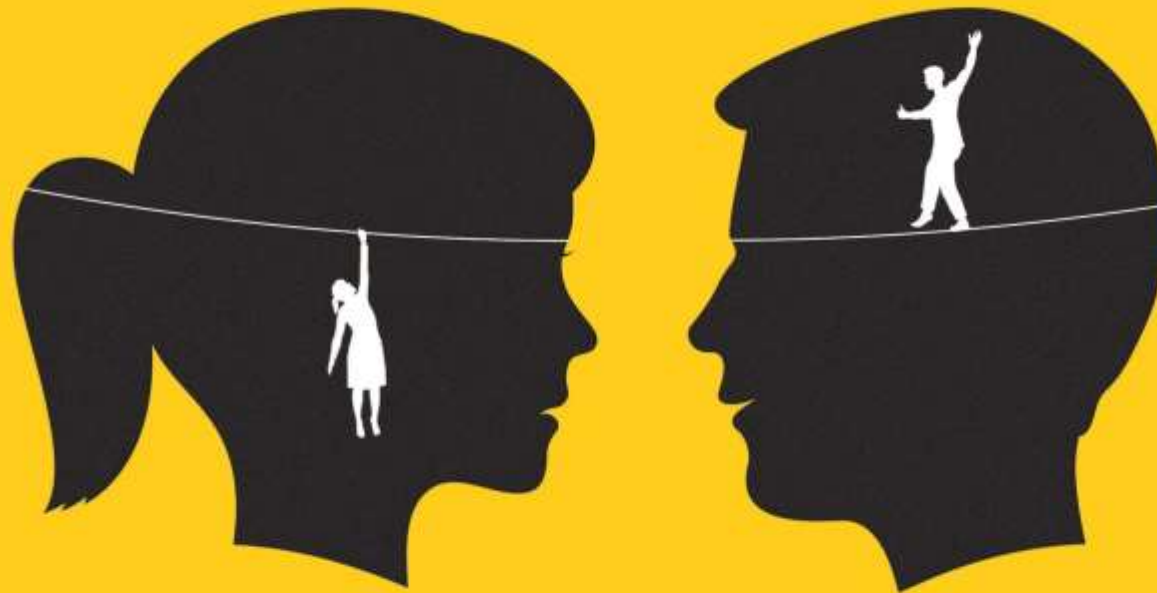


THE BACK  
DEVELOPS FASTER

**VISUAL-SPATIAL**

ADVANCED SKILLS IN  
LOGICAL  
RATIONAL MATTERS

# Health Behaviour in School-aged Children: Trends Report 1990-2010



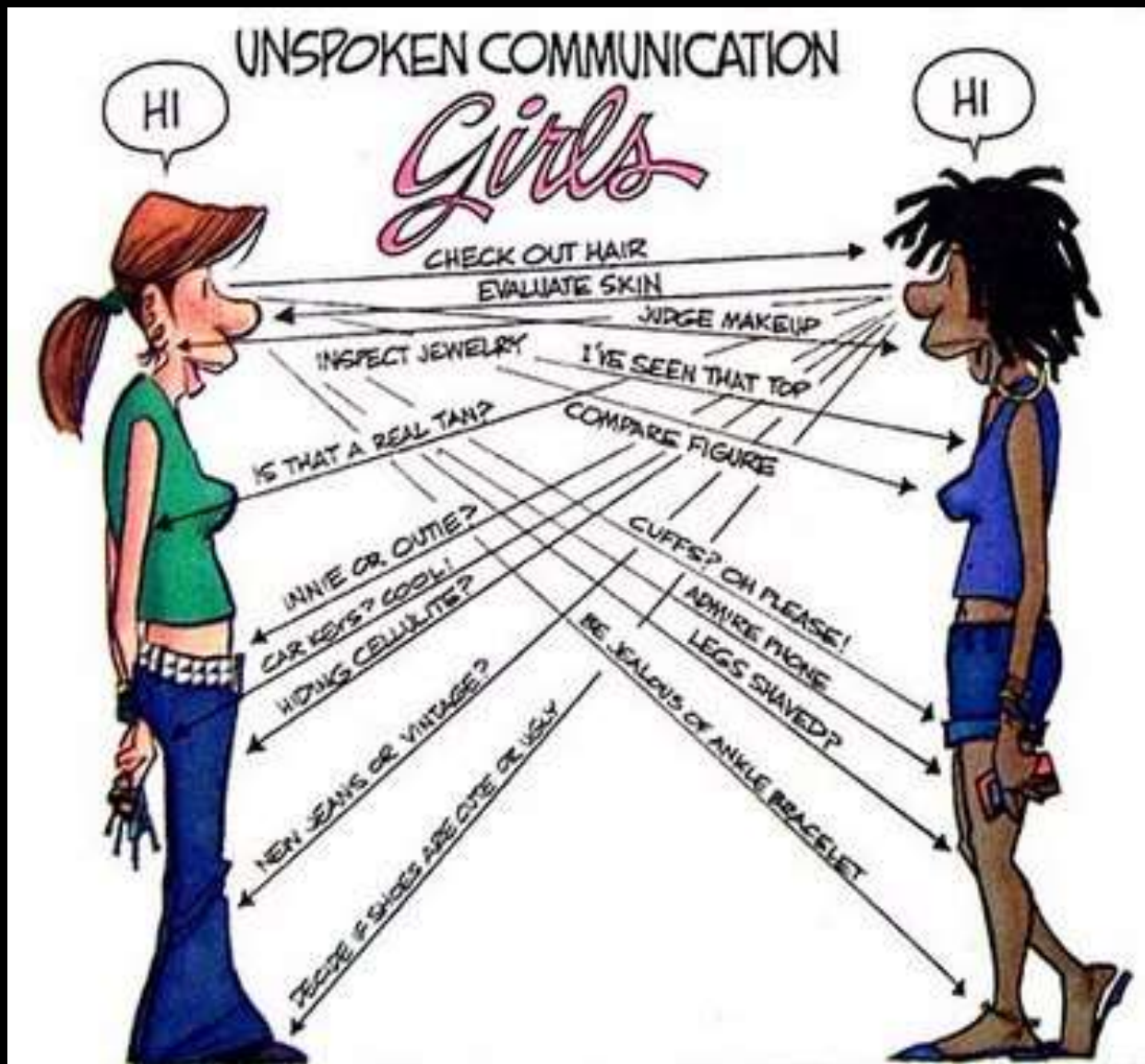
## I BELIEVE IN MYSELF

GRADE 6	85 %	85%
GRADE 8	65 %	80%
GRADE 10	60%	75%

I AM NOT  
SMART  
ENOUGH



EMOTIONS DIFFICULT TO BALANCE



**NEURAL TRAFFIC ACROSS THE BRIDGE**





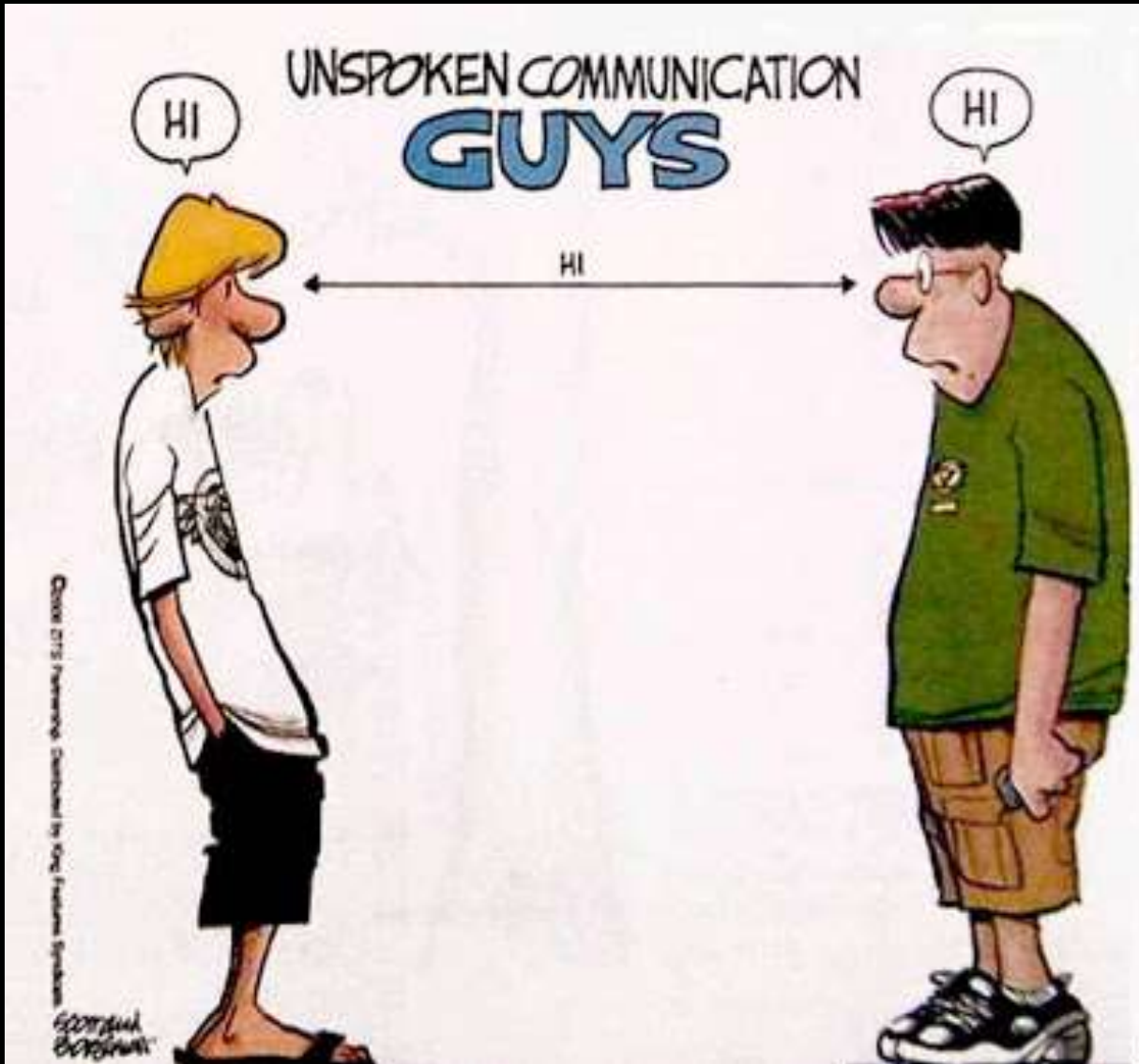
**MY  
PARENTS  
ARE  
RUINING  
MY LIFE**

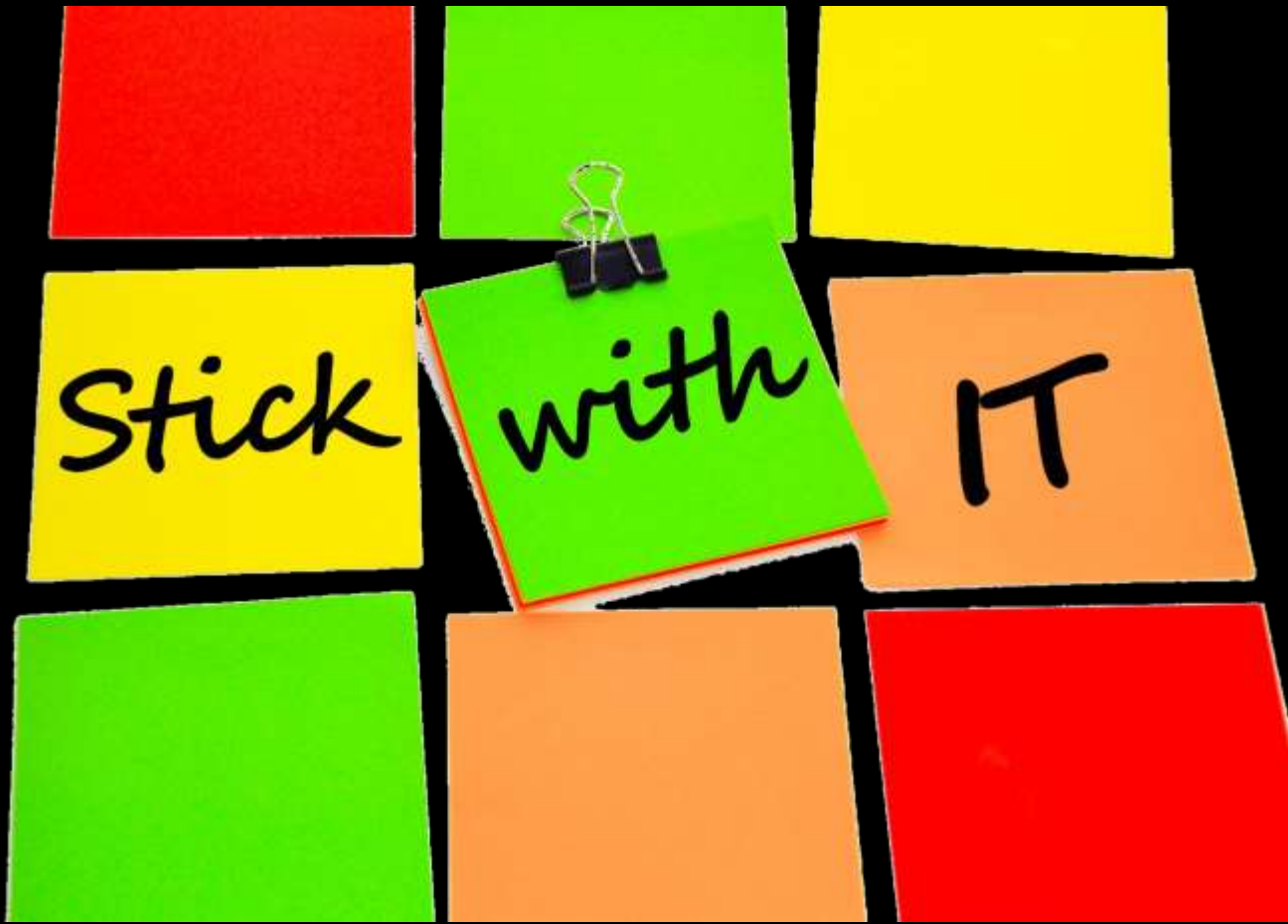
**DON'T BE FOOLED  
BY YOUR BRAIN**



**PARENTS are the  
ANCHOR**





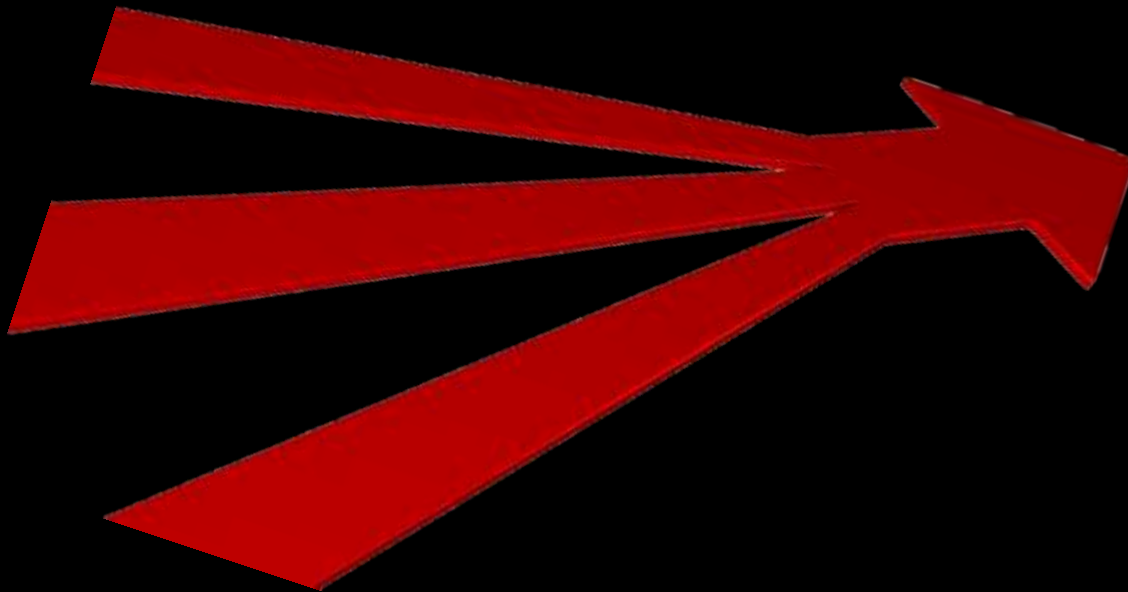


Stick

with

IT

**~ AGE 25-30**





**THANK YOU**