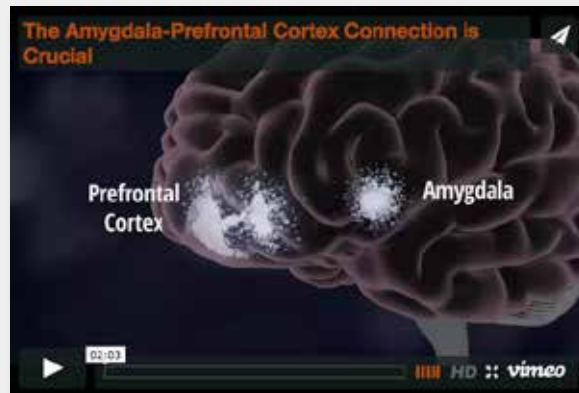


The fMRI experiments performed by Marilyn Essex, Rasmus Birn and their team at the University of Wisconsin at Madison looked at a crucial neural circuit connecting two structures of the brain: the amygdala and prefrontal cortex.



When we perceive a threat, the amygdala, deep in the brain, sends out signals crying “Alert!,” setting off a cascade of chemical changes which trigger the fight-or-flight stress response.

But the pre-frontal cortex, in the front of our brains, is the site of reasoning and what neuro-scientists call executive function. Is that voice behind me shouting loudly really a threat? Should I hit him first? Run away? Or is it just my friend Jon, upset about something and wants my help? The prefrontal cortex quickly assesses the situation and then sends messages back along a neural circuit to the amygdala which moderates the stress response accordingly. In essence the prefrontal cortex tells the amygdala to Cool out, no problem, or Oh boy, we’re in big trouble now!

As post-doctoral fellow Corey Burghy explains in *The Raising of America*,

*We want to see a good flow of traffic on that highway because that’s a highway that’s helping that child regulate their emotions on a moment-to-moment basis...how to deal with emotions, when is it appropriate to express emotions, what are good things to feel, what are bad things to feel.*

But the Wisconsin team found weaker connections in the neural circuits connecting the amygdala with the prefrontal cortex in teenage girls whose parents reported higher stress when the girls were infants. It was as if the threat signals from the amygdala weren’t getting through and couldn’t be assessed