



Emotion dysregulation, the brain and resiliency



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Disclosures

- Neither I nor my spouse/partner has a relevant financial relationship with a commercial interest to disclose.

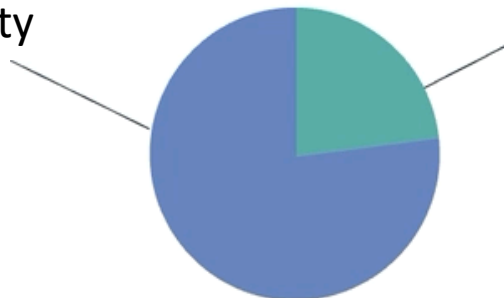
What is *emotion regulation* and *resilience*?

Emotion regulation: the ability to manage one's emotions, particularly during times of stress

Having emotion regulation skills increases one's resilience...

Resilience: the capacity to bounce back from, adapt to, or even grow from stressful experiences or crises

reactivity, low mood, anxiety



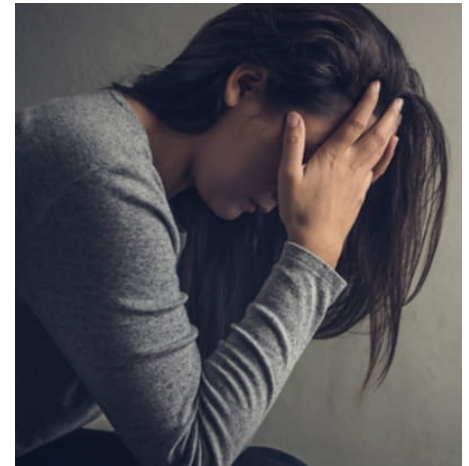
Emotion regulation capacity



Risk for psychiatric illness

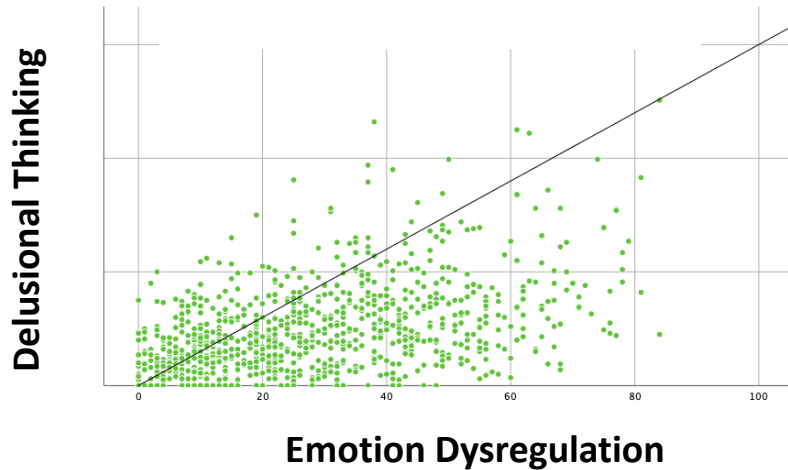
What is emotion dysregulation? “Brittany”

- A college student, living at home with her mother, taking classes remotely
- Her mother has a history of depression, not doing very well during the pandemic
- Brittany was feeling isolated but still managing O.K. until she had a fight with her boyfriend (**acute stressor**)
- Now feeling overwhelmed, panicky, tearful and sad for days, cannot do her school work, misses an important paper deadline, argues with her mother (**emotion dysregulation**)
- Begins to wonder whether her boyfriend and his friends are sabotaging her in some way, or maybe monitoring her online (**worsening symptoms**)

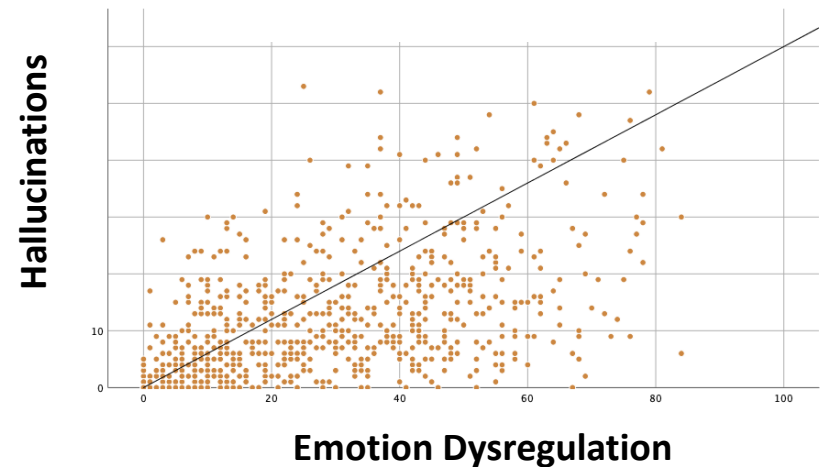


Emotion dysregulation → symptoms of depression, anxiety and, in some cases, psychosis

In 965 college students:



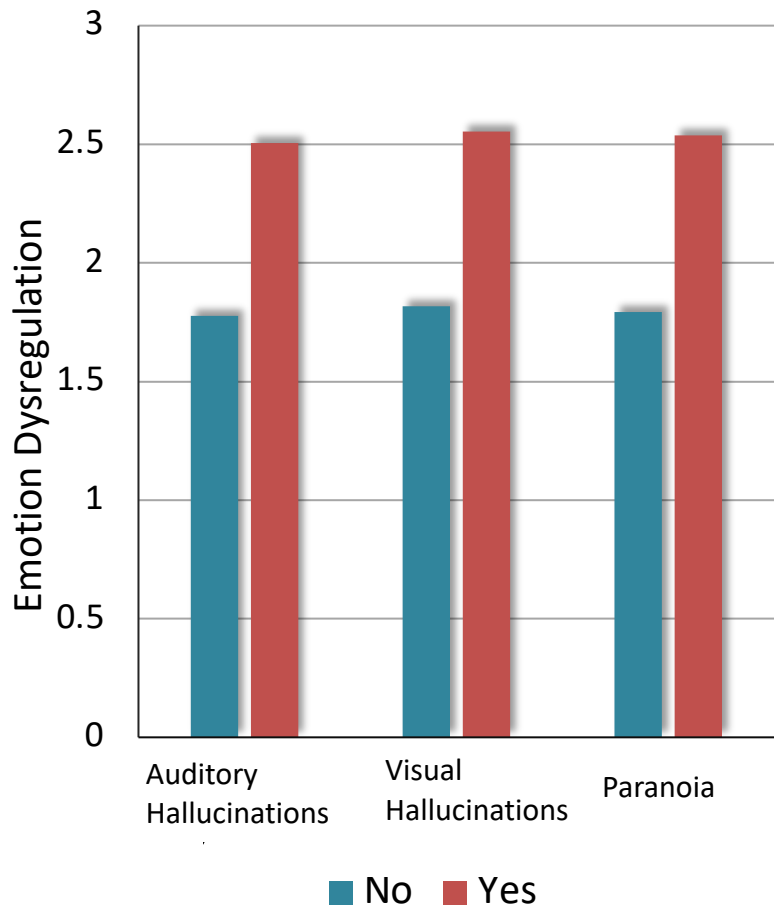
In 726 college students:



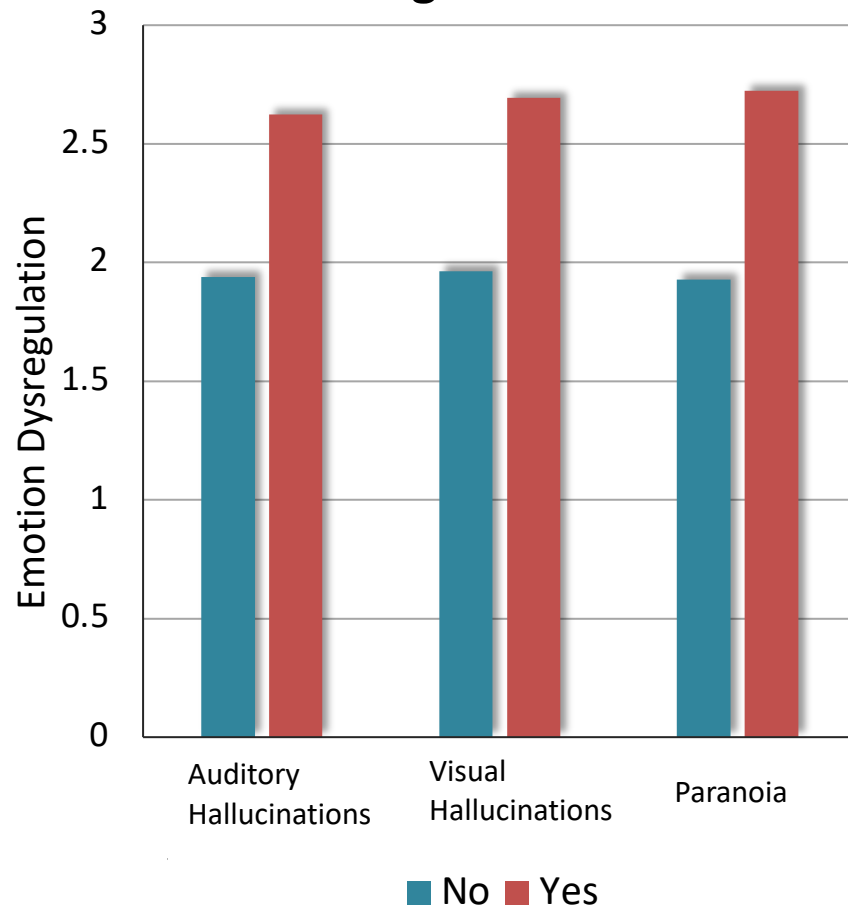
**the greater the emotional dysregulation →
the more symptoms the student experiences**

Similar pattern in adolescents: elevated emotion dysregulation in the 25.2% of middle school students and the 14.1% of high school students reporting subclinical psychotic symptoms

in 2253 middle school students



in 3590 high school students

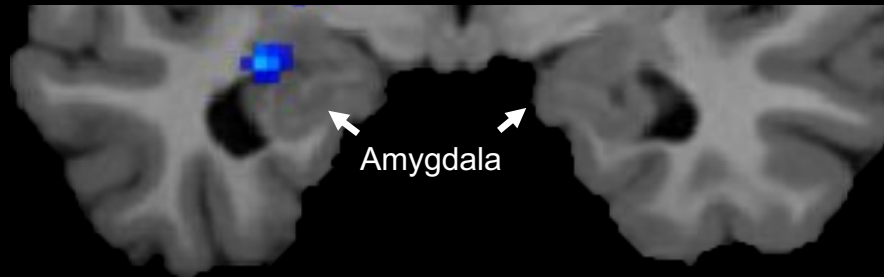


an fMRI study: while brain responses were measured, people looked at faces moving towards or away from them

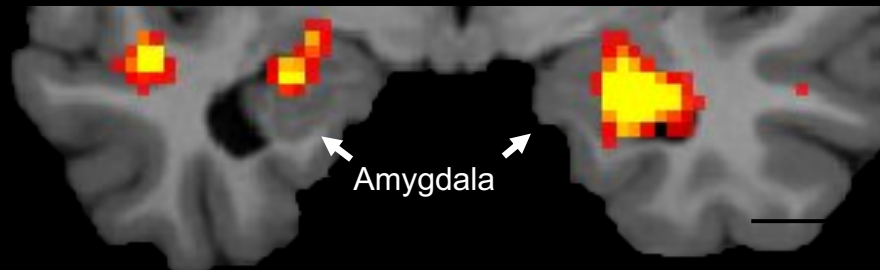


Responses of the brain to intruding faces (in yellow/orange)

in 45 youth **without** a family history of depression

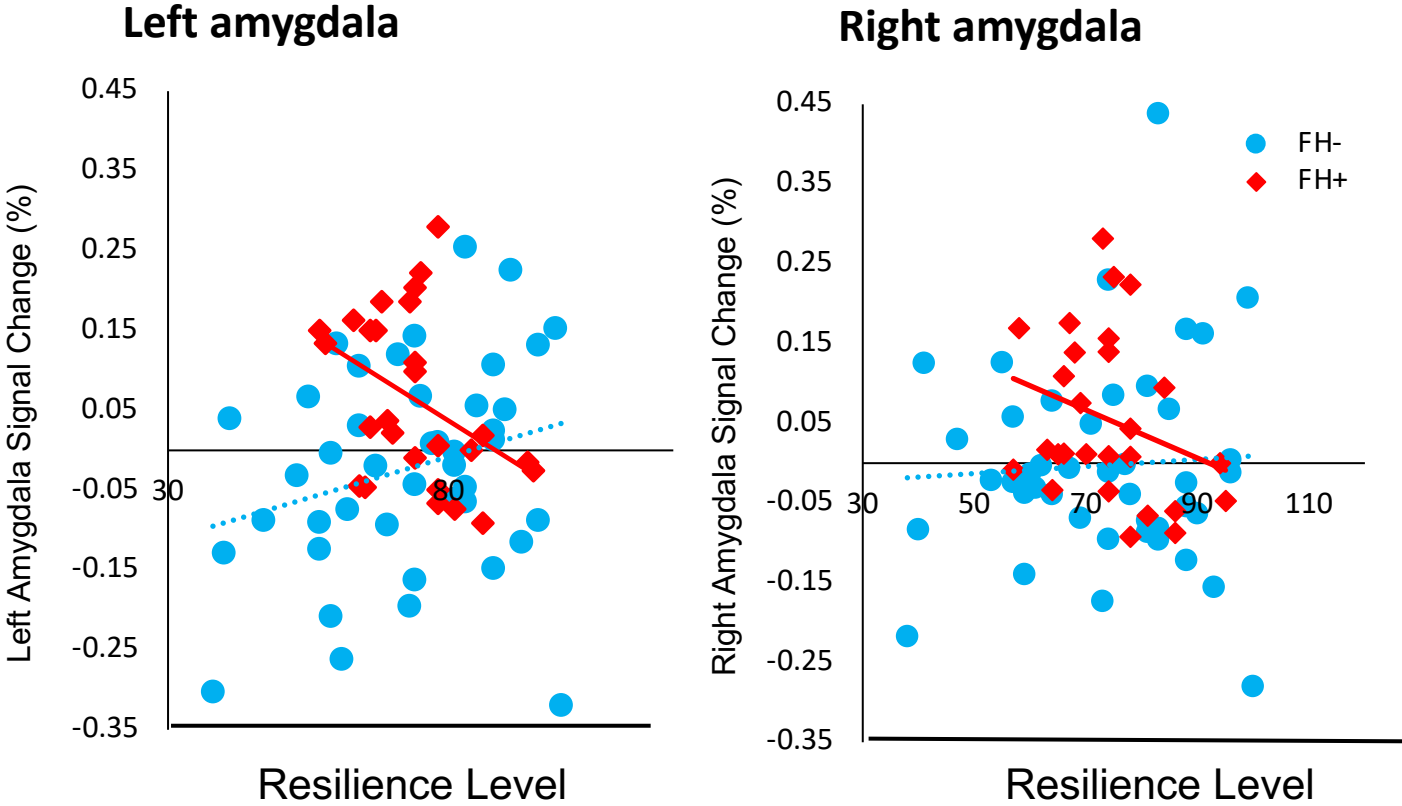


in 27 youth **with** a family history of depression

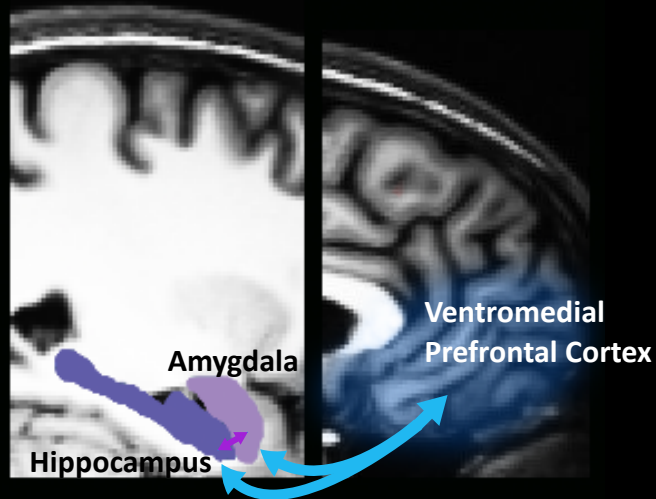


Family history of depression →
over-activity of the **amygdala**

In those with a family history of depression (red dots):
higher amygdala activity is linked with lower resilience levels

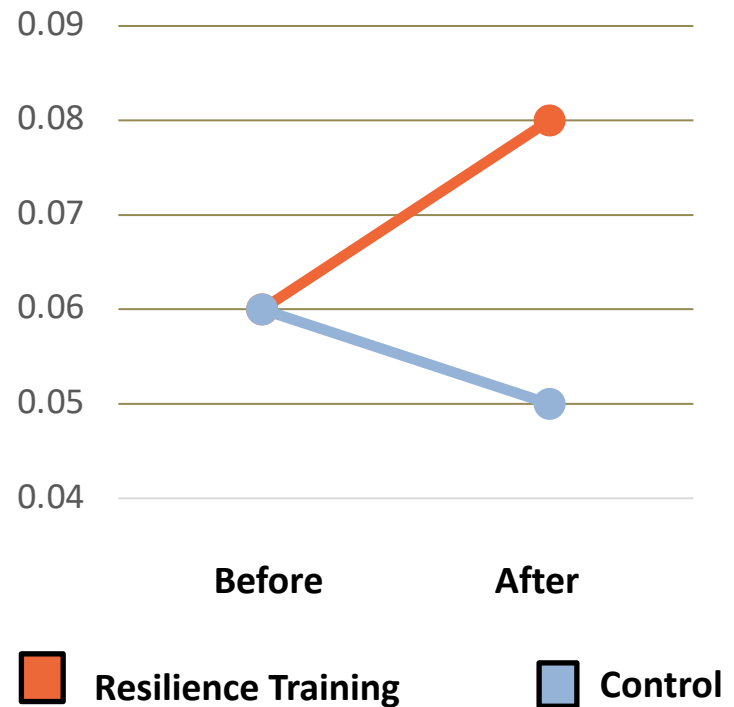


Brain regions involved in the regulation of emotion

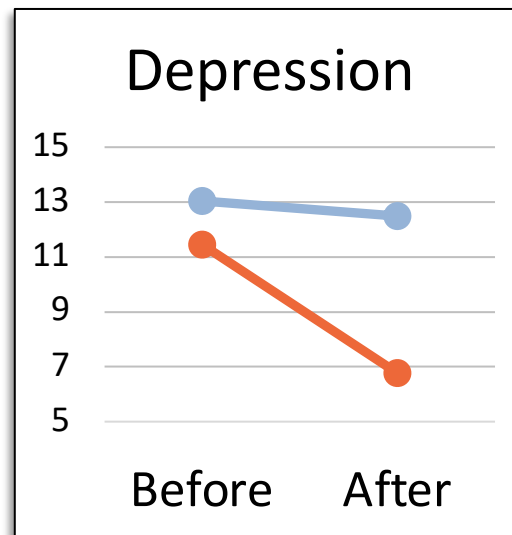
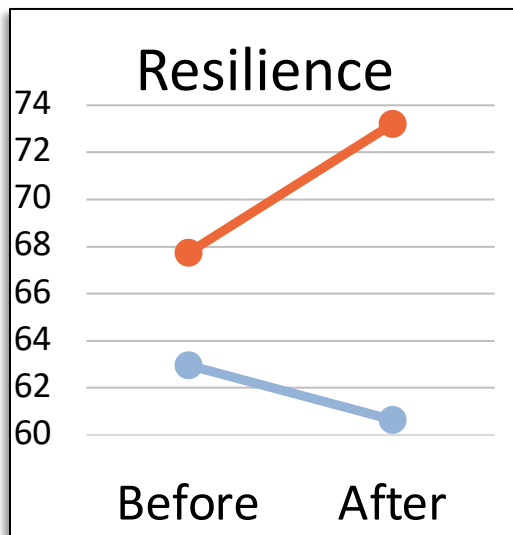


Connections between the amygdala and prefrontal cortex strengthen with Resilience Training

Amygdala – Prefrontal Cortex Connections

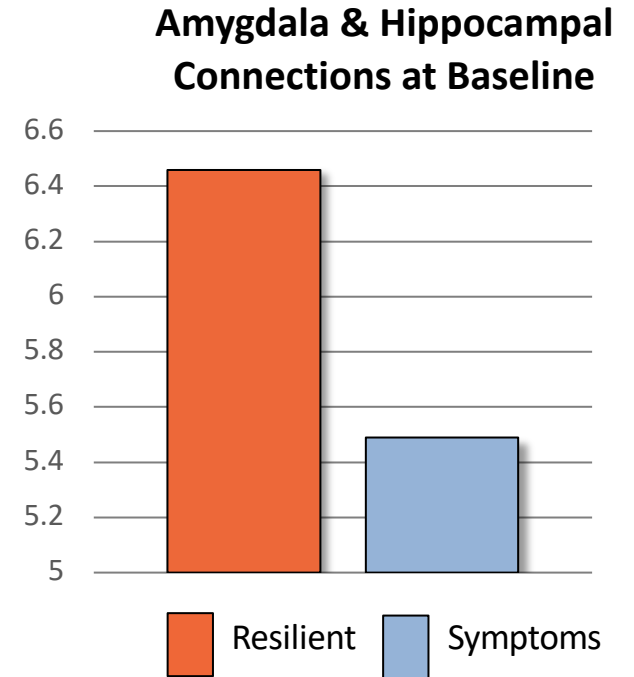
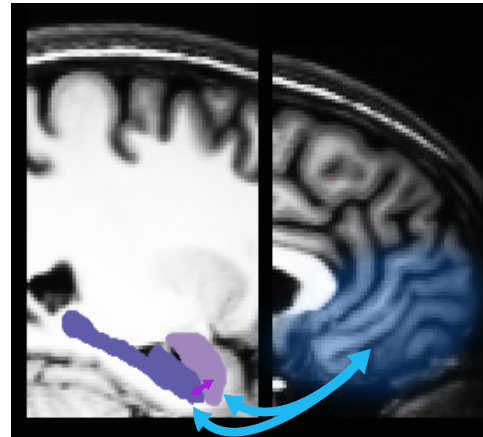
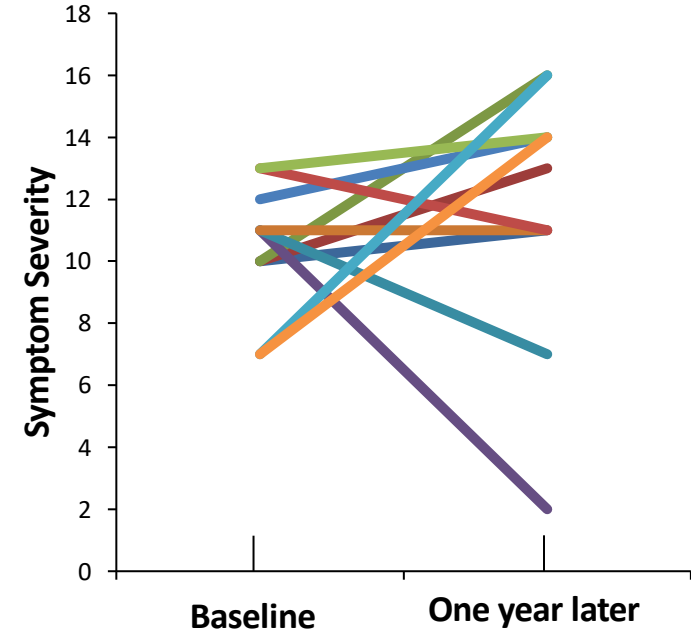


Resilience Training also increases resilience and decreases symptoms



■ Resilience Training ■ Control

Goal: to use objective, biological or cognitive predictors of outcomes to identify those most in need of a protective intervention



Who will emerge from the pandemic intact? Who needs more help?

