



Anxiety & the Brain

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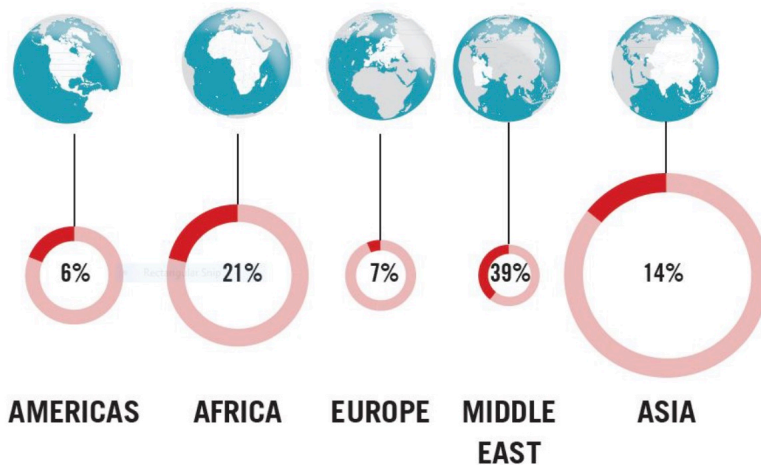
["Breathe,"](#) by Sienna Morris

Common experience

- [Lifetime prevalence of 28%](#)
- [Median onset at age 11](#)
- [Significant impairments w/o treatment](#)
- *Exacerbated by environment (conflicts)*

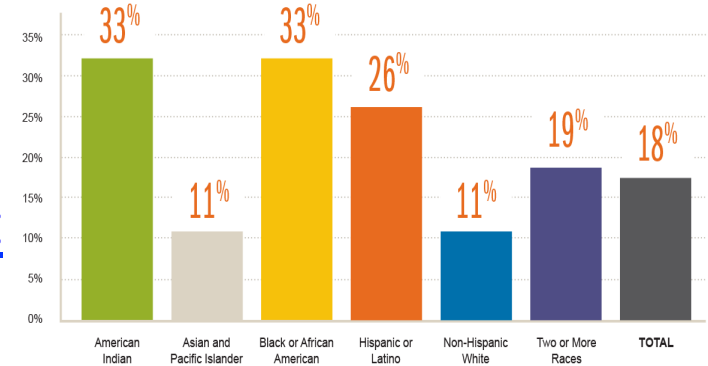
Children affected by conflict

1 in 6 children were living in conflict areas in 2016

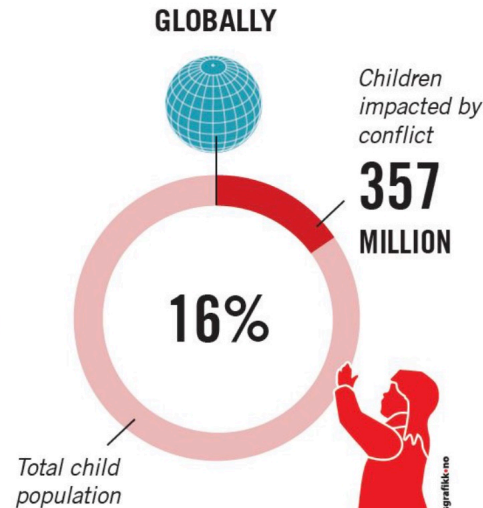


A conflict event is defined as a lethal incident, either a violent clash between two armed groups or an attack on civilians by a group/groups, at a given time and place. Conflicts usually consist of several conflict events. Conflict area: an area 50km or less from where a conflict incident takes place in a given year.

Children in Poverty By Race and Ethnicity (2017)



[Annie E. Casey Foundation](#)



ALSO...
Poverty
Inequality
Bias
Trauma

[IMAGE SOURCE](#)

Common in schools



NW Noggin outreach:
Many questions about
anxiety and the brain



“Anxiety disorders are the most frequent conditions in children, followed by behavior disorders, mood disorders, and substance use disorders...”

[Epidemiology of mental disorders in children & adolescents](#)

What is anxiety?

- **DSM V**: *an excessive fear response and/or worry that interferes with functioning or causes significant distress.*
- Includes **panic disorder** (PD), **specific phobia** (SP), **social anxiety disorder** (SAD), **PTSD**, **generalized anxiety disorder** (GAD) - *is this a continuum..?*
- **Fear**: phasic, abrupt fight-or-flight in response to an immediate and identifiable threat, *versus...*
- **Anxiety**: a more prolonged state of tension, worry, apprehension about uncertain, potentially negative, future events...

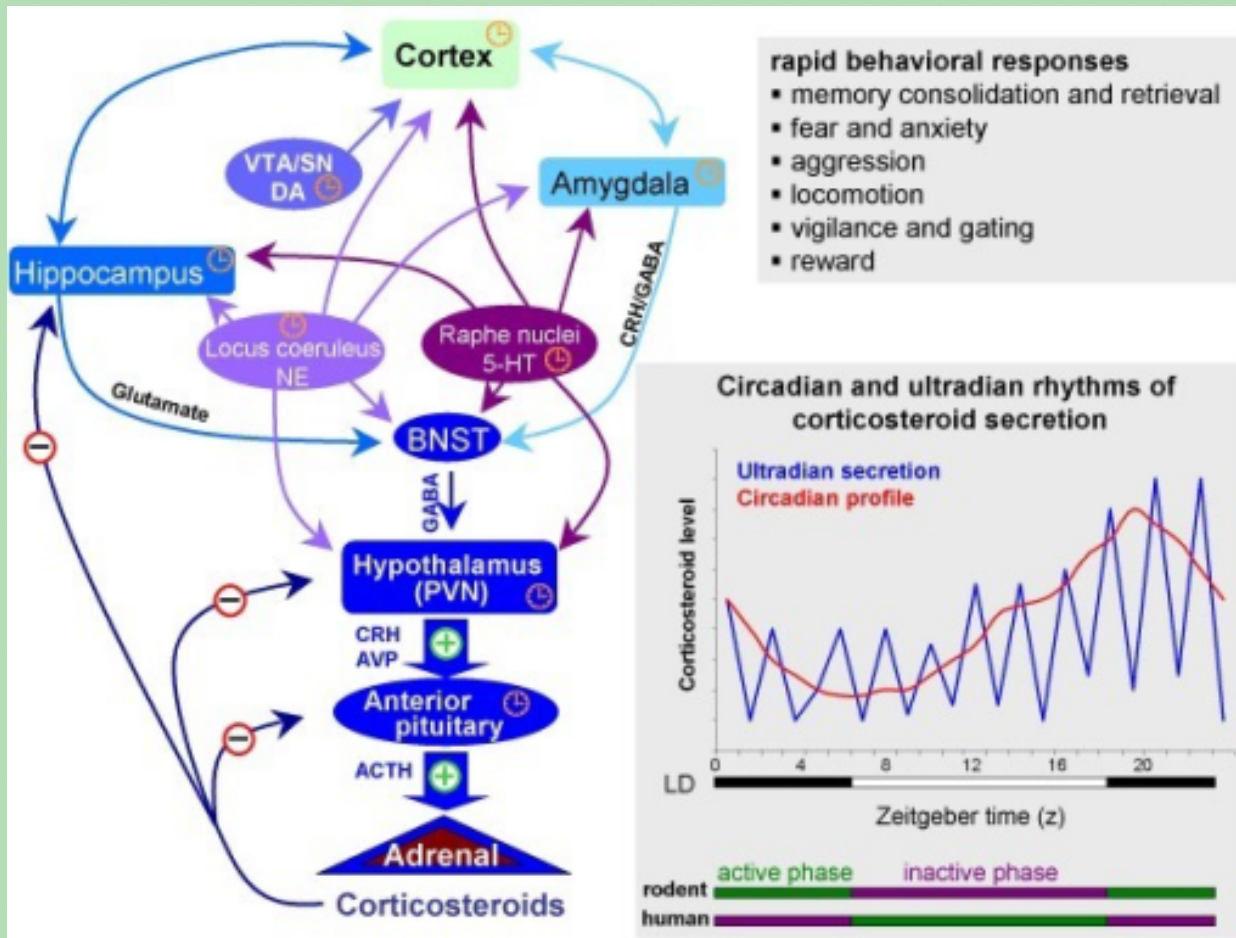
Benefits of Fear and Anxiety



“The Scream,”
by [Edvard Munch](#)

- **Fear:** helps deal with immediate threats
- **Anxiety:** increases vigilance (sustained attention); improves our ability to identify uncertain or potential threats
- **Disorders:** when anxiety or fear response is excessive or in the absence of a true threat, either immediate or future...

Brain & Anxiety



Subcortical
 Hypothalamus
 Amygdala
 VTA
 BNST
 LC
 Raphe

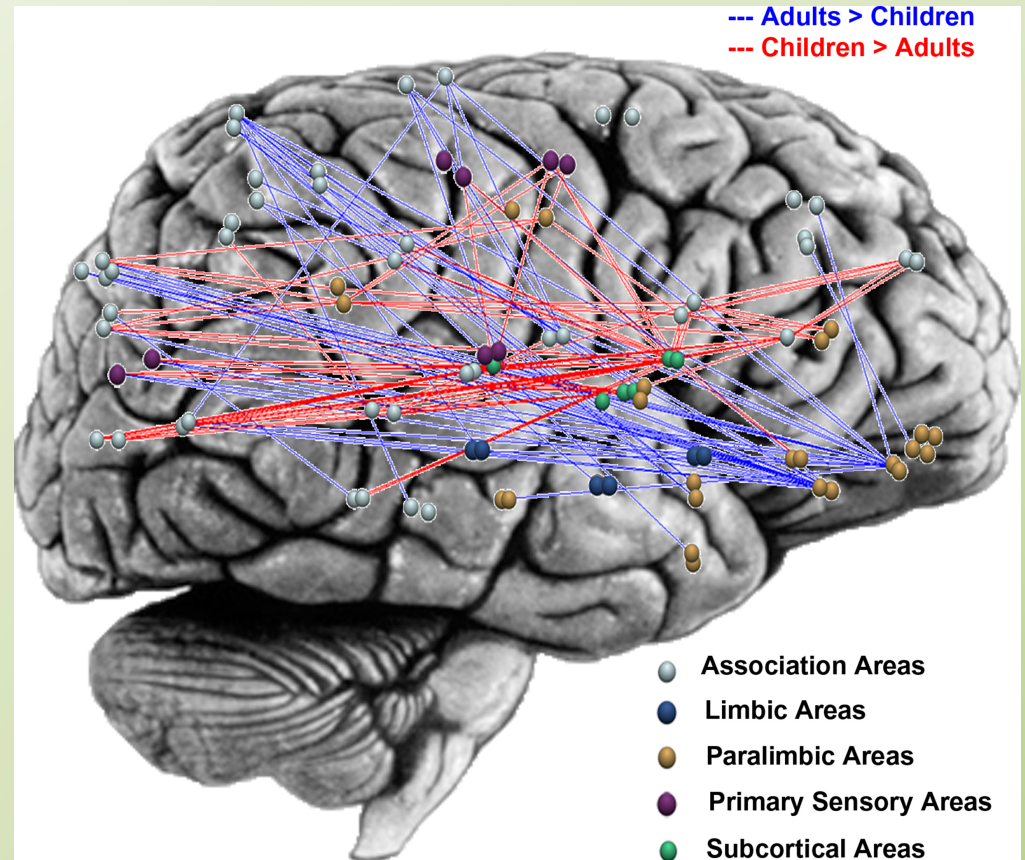
Cortical
 Frontal lobe
 Insular lobe
 Parietal lobe
 MTL/Hipp.

SOURCE: [Corticosteroids: way upstream](#)

Emotional Reactivity vs. Regulation

- **Reactivity**: automatic; autonomic
- **Regulation**: monitoring, evaluating, modifying (e.g., distraction, suppression, re-appraisal) emotional reactions; intrinsic/extrinsic
- Emotional reactivity is more instinctive; dependent on subcortical contributions
- *Improving emotional regulation takes experience, and development*, particularly in cortical networks (e.g., frontal/insular lobes)

Network development



“Adults have weaker short-range functional connectivity and stronger long-range functional connectivity than do children. Taken together, studies by Fair et al. (2007a, 2009), Kelly et al. (2009), & Supekar et al. (2009) suggest a developmental process of greater functional segregation in children and greater functional integration in adults at the whole-brain level, as well as in specific networks such as the attentional control network and the default mode network...” FROM: [Typical and atypical development of functional human brain networks](#)

Cooking & the Brain



“Don’t eat brains!”

- **Why cooking?** “...a familiar task of daily living, uses physical engagement, and involves executive function utilization...”
From Psychosocial Benefits of Cooking Interventions: A Systematic Review, [Nicole Farmer et al \(2018\)](#)
- **Decreased anxiety**; Therapeutic effect of cooking on burn survivors, [Hill KH et al \(2007\)](#)
- **Improved confidence and self esteem**; Baking Gives You Confidence, [Haley L et al \(2004\)](#)
- **Increased socialization**; Wider impacts of a 10-week community cooking skills program, [Herbert J et al \(2014\)](#)
- **Improved psychological well-being**; Nutrition education and cooking classes improve diet quality, nutrient intake, and psychological well-being, [Jyväkorpi S et al \(2014\)](#)

Shinrin-Yoku

“Forest Bathing”

- [Walk in nature](#)
- [Get a houseplant](#)
- [Look at landscape art](#)

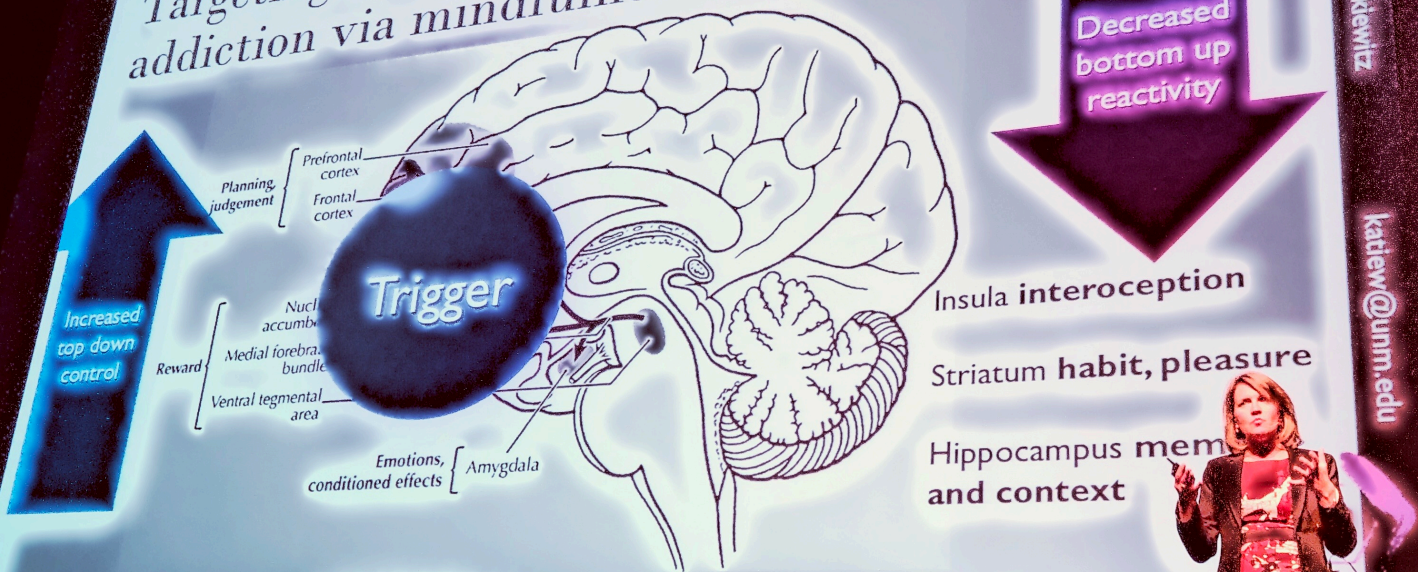


- Improved immune response
- Better cardiovascular function
- Fewer allergies
- Increased mental relaxation
- Reduced depression & anxiety

Lily E. White (American, 1865-1944), Evening on the Columbia

[Not just scenery: Viewing nature pictures improves executive attention in older adults](#)

Targeting dysfunctional brain circuits in addiction via mindfulness meditation



Katie Witkiewitz

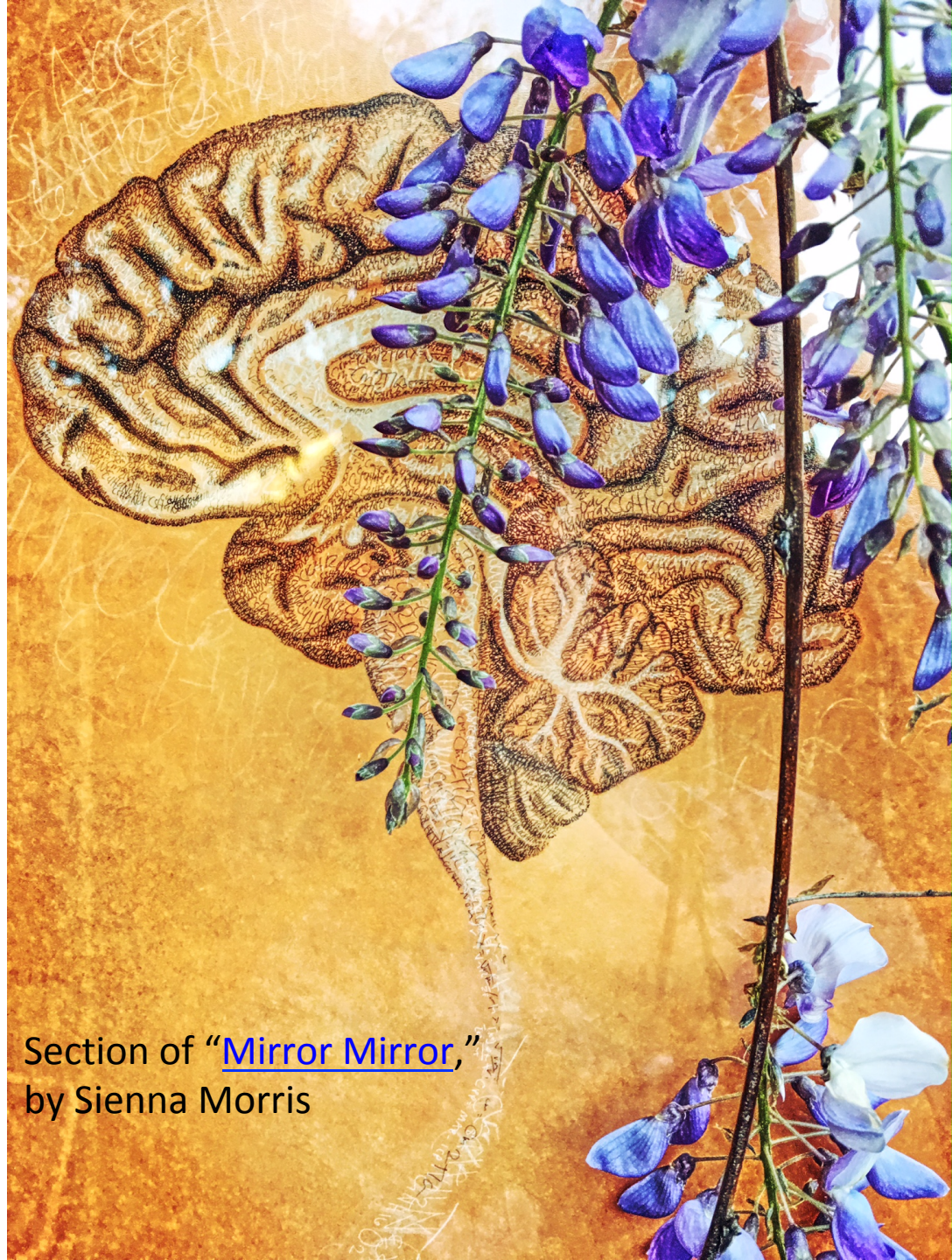
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Mindfulness & Meditation
Talk by Katie Witkiewitz, May 6, 2019

Room for mistakes

- We differ in emotional reactivity
- We differ in environmental experience (bias, conflict, access to nature, resources)
- We differ in age, and our ability to regulate
- Be kind; increasing emotional reactivity only makes regulation harder to achieve
- ***Development is an ongoing process***



Section of "[Mirror Mirror](#),"
by Sienna Morris