



Anxiety

Chapter 16

What is Anxiety?

- Fear vs anxiety (2 types of escape emotions)
 - Fear: temporary experience, usually escapable
 - Anxiety: long-lasting, less escapable



How We Measure Anxiety

- Escape behaviors: way to observe fear/anxiety
- Innate fears
 - Startle reflex
 - Reaction modified by current mood or past experience
 - Conditioned fear response
 - Measure physiological behavior during a fear
 - Pair another stimulus shortly before the fear-evoking stimulus
 - Upon repeated presentations, subjects will respond to the originally non-threatening stimulus as though it's anticipating the fearful response



"That's right! No huffing and puffing for 30 minutes on a treadmill. We've developed a new stress test that is faster and more accurate."

Human Amygdala and Fear

- Experimental Evidence
 - Viewing fearful faces ↑ activity in amygdala
- Clinical Evidence
 - Urbach-Wiethe disease - calcium accumulation kills cells
 - No experience of fear
 - Trouble identifying fearful facial expressions
 - Also trouble drawing someone w/fearful expression

Amygdala and Chemicals Involved in Anxiety

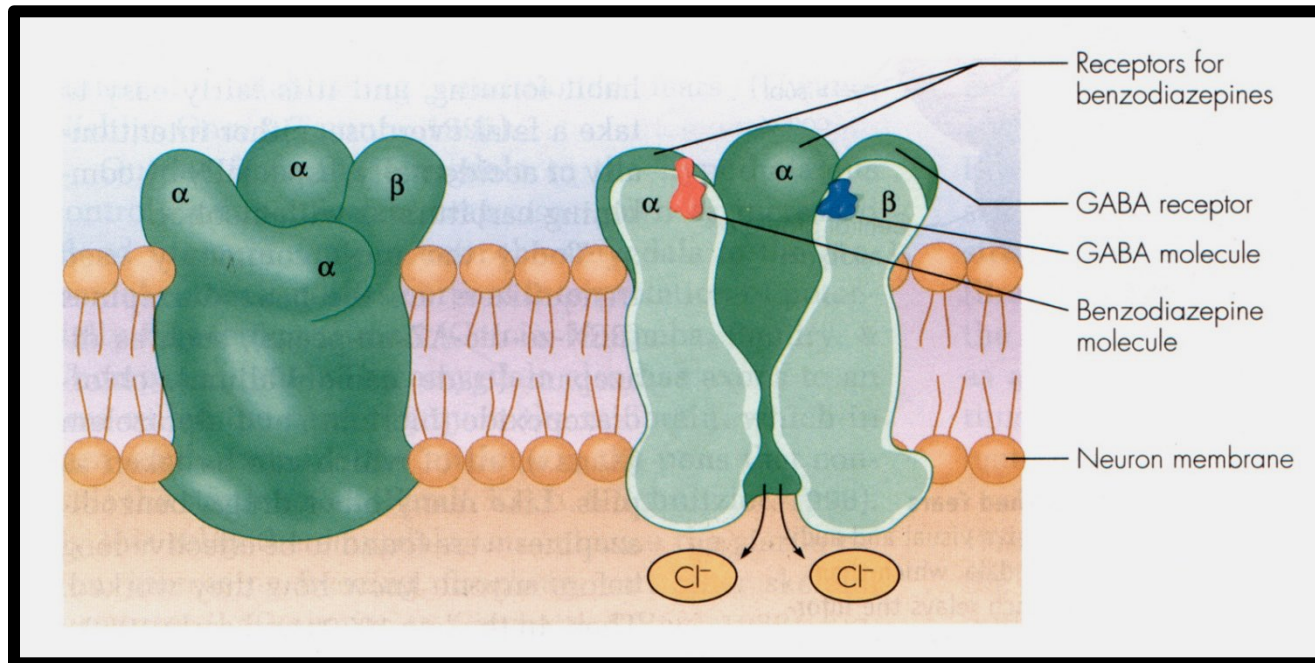
- CCK (cholecystokinin)
 - Main excitatory amygdala neurotransmitter
 - CCK agonist ↑↑ startle reflex
- GABA (gamma amino butyric acid)
 - Main inhibitory amygdala neurotransmitter
 - GABA antagonist induces panic
 - Extremely low levels of GABA possibly related to panic disorder

Mechanism Behind Anxiety-Reducing Drugs

*I Love It When
My Pills Kick In!*

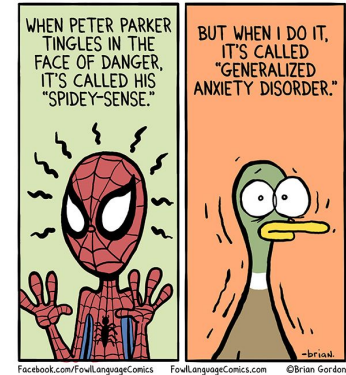


- Benzodiazepines and Alcohol
 - Both act on GABA receptors (changes its shape)
 - Facilitates the binding of GABA (inhibitory)
 - Exhibit cross-tolerance
 - if you develop a tolerance for one, will have one for the other)



Anxiety Disorders

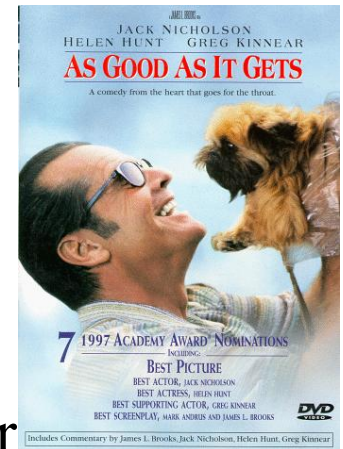
HOW COME?



- Generalized anxiety disorder
 - Symptoms common, persistence is abnormal
 - 2/3 of sufferers are women (may be skewed)
 - Attention shifts from worry to worry (with physical symptoms)
 - No identification of cause for worries
- Panic Disorder
 - Occurs suddenly, very intense, then disappears
 - Marked by frequent panic attacks
 - Similar to heart attack (heart race, shortness of breath, dizziness, etc.)
 - Agoraphobia accompanies this
- Phobias
 - Irrational fears that disrupt “normal” functioning
 - Can be specific or general (e.g., social)

More Anxiety Disorders

- Obsessive-Compulsive Disorder
 - Based on repetitive thoughts (obsessions) and behavior (compulsions)
 - Interferes with everyday functioning
 - Examples: Howard Hughes, *As Good as It Gets*
- Post-traumatic Stress Disorder
 - Direct experience with extremely fearful event
 - Uncontrollable sense of fear, helplessness, and horror
 - Marked by excessive drug abuse, lashing out, hallucinations



Perspectives of Anxiety Disorders

- Learning
 - Classical Conditioning
 - Reinforcement
 - Generalization
 - Observational Learning
- Biological
 - Natural selection
 - Genes
 - Physiology