

### Class Preparation: Mental Health #1

**Directions:** Fill in the charts below. Identify what mental health disorders can occur when each neurotransmitter is increased or decreased.

	<b>Functions</b>	<b>Increase</b>	<b>Decrease</b>
<b>Dopamine</b>	Fine muscle movement Integration of emotions and thoughts Decision making Stimulates hypothalamus to release hormones (sex, thyroid, adrenal)	Psychosis Mania	Parkinson's Depression
<b>Norepinephrine</b>	Mood Attention/Arousal Stimulates sympathetic branch of autonomic nervous system for fight or flight response to stress	Mania Anxiety Psychosis	Depression
<b>Serotonin</b>	Mood Sleep regulation Hunger Pain perception Aggression and libido Hormonal activity Alertness Inflammatory response Stimulates gastric secretion	Anxiety	Depression
<b>GABA</b>	Inhibitory neurotransmitter: Reduces anxiety, excitation, aggression, may play role in pain perception, anticonvulsant, and muscle-relaxing properties, may impair cognition and psychomotor function	Reduction of anxiety	Mania Anxiety Psychosis
<b>Acetylcholine</b>	Plays a role in learning and memory, regulates mood, mania, sexual aggression, affects sexual and aggressive behavior, stimulates parasympathetic nervous system	Depression	Alzheimer's Huntington's Parkinson's

### Structures of the Brain

<b>Brain Structure</b>	<b>Function</b>
The limbic System	Is made up from the hippocampus, the amygdala, and the basal ganglia. The hippocampus interacts with the PFC in making new memories. The amygdala plays a major role in processing fear and anxiety. The hypothalamus, thalamus, and basal ganglia also play a role in the limbic system. The hypothalamus regulates hunger, thirst, and hormones. The limbic system mediates thought and feeling through complex bidirectional

	connections. Controls our emotions, instinct, and memories.
Frontal Lobe	Thought processes Formulate or select goals, initiate plan, terminate actions Decision making Insight Motivation Social judgement Voluntary motor ability starts in frontal lobe
Parietal Lobe	Sensory and motor Receive and identify sensory information Concept formation and abstraction Proprioception and awareness Reading, mathematics, right and left orientation
Temporal Lobe	Auditory Language comprehension Stores sounds into memory Connects with limbic system "the emotional brain" to allow expression of emotions (sexual, aggressive, fear)
Occipital Lobe	Vision Interprets visual images Visual association Visual memories Involved with language formation