Self-Help Video #7 Part 1

Introduction to Auditory Systems

<https://youtu.be/LbiIDuwOvpU>

(begin at 1:40 minutes to bypass Medical Disclaimer)

Parasympathetic activation is necessary for trauma resolution.

[www.ncbi.nlm.nih.gov/pmc/articles/PMC5530077/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5530077/)

Interoception: sensitive to stimuli inside of body.

Exteroception: sensitive to stimuli outside of body.

[www.ncbi.nlm.nih.gov/pmc/articles/PMC5985305/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985305/)

Interoception and exteroception are altered by sympathetic (S-stress) or parasympathetic (P-peace) activation as S or P impact which and how much stimuli you perceive. Different emotions are based upon which is activated.

<https://www.khanacademy.org/test-prep/mcat/processing-the-environment/sensory-perception/v/sensory-adapting>

<https://www.khanacademy.org/test-prep/mcat/processing-the-environment>

<https://www.khanacademy.org/test-prep/mcat/processing-the-environment/emotion/v/autonomic-nervous-system-ans-and-physiologic-markers-of-emotion?modal=1>

<https://faculty.washington.edu/chudler/dl3.html>

Emotions are sensory-based body responses which create biochemical brain changes.

Feelings are mental experiences of emotions which are changed by interoception, exteroception, sympathetic, parasympathetic, and emotion.

[www.futurelearn.com/info/blog/thinking-and-feeling-whats-the-difference](http://www.futurelearn.com/info/blog/thinking-and-feeling-whats-the-difference)

You became aware of your thoughts, termed “embodied self-awareness” and “tracking” and “scanning.” You had awareness without judgmental thoughts, commentary from inner beliefs, and filters keeping out sensations. You had awareness of non-verbal communication and developed feelings for others, called “empathy,” by identifying their energetic vibrations.

You will now integrate Mindful audiology.

<https://www.youtube.com/watch?v=QncjzfyTsh8>

<https://www.pasco.com/products/guides/sound-waves>

Gestational factors, both internal and external, affect brain development. A lack of nutrients of mother’s diet will create health and disability issues for the child.

Reference: Life in the Womb: the Origin of Health and Disease by Peter W. Nathanielsz, M.D., Ph.D.

<https://www.amazon.com/Life-Womb-Origin-Health-Disease/dp/0916859568>

The human brain and senses grow nine months in the womb and 18 months outside of the womb. At birth, the infant’s brain and communication ability is similar to the chimpanzee’s. The speech organs are located similarly. The human larynx must descend in the throat before speech can be produced. At birth, the infant can nurse and breathe at the same time. As speech organs mature, the child can no longer eat and breathe simultaneously.

During gestation, the ears “listen” and the brain “learns.” From 25 weeks gestation to six months of infant age, cochlea hair cells, auditory nerve axons, and temporal lobe auditory cortex neurons, are “tuned” to specific frequencies and intensities which requires outside stimulation. The fetus listens to the mother’s body sounds and sounds in the mother’s external environment.

[www.cochlea.org/en/hear](http://www.cochlea.org/en/hear)

[www.sciencedirect.com/science/article/abs/pii/S1527336908001347](http://www.sciencedirect.com/science/article/abs/pii/S1527336908001347) (copy URL and paste in browser)

Of the five senses, auditory begins functioning earliest. Exposure to loud intense noises will interfere with auditory development and frequency discrimination. Based upon the polyvagal theories of Dr. Porges, the “Safe & Sound Protocol” intervention improves social communication by reducing hearing sensitivities.

<https://integratedlistening.com/ssp-safe-sound-protocol/>

Certain music activates the sympathetic pathways, creates a rise in heart beat, whereas other music activates the parasympathetic pathways, lowers the heart beat. Language vocalization can create “stress” or “peace” and either cause rapid heart beat or lower heart beat.

[www.heartmath.org/research/science-of-the-heart/heart-brain-communication/](http://www.heartmath.org/research/science-of-the-heart/heart-brain-communication/)

[www.nature.com/articles/s41598-019-41014-6](http://www.nature.com/articles/s41598-019-41014-6)

[www.hindawi.com/journals/bmri/2015/847506/](http://www.hindawi.com/journals/bmri/2015/847506/)

Prior, you received training in Mindful Senses and were directed to “not plan” your environment with specific music.

<https://www.hearingconsultants.com/hearing-loss-articles/dealing-with-noise-pollution-in-your-neighborhood/>

Our auditory system creates filters to protect us from noise intrusions. Filters interfere with “in-the-moment” experiences. Filtering causes stress which interferes with parasympathetic response. Go to a remote geographical area for this exercise. Experience the exercise, rather than imagine the experience. With IN SYNC psychotherapy, you will learn about “experience” versus “imagination.”

Begin with Progressive Relaxation and Deep Breathing, add sighing and spontaneous yawning. Do Mindful Scanning of internal sensations. Focus on the external sounds. Listen to a bird’s call. Sense the call’s vibration traveling through the air from the bird’s location. Listen to another bird’s call coming from another location. Sense the difference in the first bird’s call compared to the second bird’s call. Be aware of geographical distance from the wave vibration differences.

<https://courses.washington.edu/psy333/lecture_pdfs/chapter12_SoundLocalization.pdf>

<https://www.scienceabc.com/humans/what-sound-is-heard-when-you-cup-your-palm-over-your-ear.html>

<https://outdooraction.princeton.edu/nature/nature-observation-stalking>