## Vocabulary List by Chapter

Chapter 1 ASMR Auditory Stream Analysis cognition confound embodied cognition executive functions focal dystonia limitation music cognition Music Performance Science music psychology neurohumanities research neuroscience participants perception stimuli Stream Segregation

Chapter 2 **Conditioned Head Turn Procedure** descriptive research encode false alarm fundamental frequency (FO) Head-Turn Preference hydrophones infant-directed singing infant-directed speech mismatch negativity response (MMN) Perceptual Reorganization proprioceptive system spectrogram vestibular system waveform

Chapter 3 absolute pitch amplitude amusia applied research basic research Stambaugh, L. A. (2022).

behavioral research bottom-up processing connectionist model of tonality cross-cultural research cross-sectional research difference limen for frequency dysrhythmia enculturation equal loudness contours frequency Hertz (Hz) Just Noticeable Difference (JND) longitudinal research oscillates perceptual bias perfect pitch phon pitch class chroma pitch height population probe tone task pupillometry rag sample scoops sine wave statistical learning thats top-down processing unequal spaced scale universals Chapter 4 action-perception coupling

beat elimination complex tone doubling timbre equal-tempered just intonation multimodal imagery association (MMIA) octave equivalence poor-pitch singer Pythagorean tuning singer's formant system, as in auditory or motor system tonal language tone deaf

## variables

Chapter 5 absolute timing altered auditory feedback antiphase beat extraction beat induction beat perception beat production confounds double stream theory of music Dynamic Attending Theory ecological validity EEG empty intervals entrainment estimation of time event density expressive timing filled intervals forced choice question groove in phase individual differences inter-onset interval (IOI) isochronous Just Noticeable Difference (JND) mean negative asynchrony microtiming mirror neuron neural oscillations perturbations phase-correction phase-matched phrase-final lengthening preference prime or priming protocol psychological present relative timing scalar expectancy theory selective attention sensorimotor synchronization (SMS) spontaneous tempo standard deviation subjective rhythmization

synchronization task synchronization-continuation task synchronous tactus *temps long* timekeeping timing intervals WEIRD researchers

Chapter 6 arousal autobiographical memories baseline basic emotions bodily response cognitivist CRDI (Continuous Response Digital Interface) EMG emotional contagion emotivist felt emotion induced peak experiences perceived emotions phenomenology psychophysiological measure reliability response rate self-report self-selected music skin conductance state anxiety trait anxiety valence validity

amusia aphasia aptitude brain activation clinical research cochlea cocktail party phenomenon critical periods function modularity neuroplasticity OPERA hypothesis pathway plasticity pre and post-tests Resource Sharing Framework self-select speech-in-noise speech-to-song illusion structure tonotopic map transfer

Chapter 8 aptitude assessment chunk or chunking consolidation declarative memory domain knowledge encoding enhancement episodic memory expert memory explicit memory implicit memory long-term memory performance cues procedural memory recognition test reconsolidation reproduction test retrieval semantic memory sensory memory short-term memory stabilization storage tonal memory working memory

## Chapter 9

acquisition action observation network Applied Model for the Use of Observation augmented feedback blocked order closed-loop control cognitive load theory conditions constrained action hypothesis contextual interference effect distributed practice dynamic systems theory external focus of attention feedforward model Fitts' Law generalize generalized motor program inherent feedback interleaved internal focus of attention kinesthetic feedback knowledge of performance knowledge of results massed practice mean motor control motor development motor learning motor program open-loop control power random order replicate or replication study research agenda retention testing schema Schema Theory social learning theory somatosensory feedback specificity of practice hypothesis speed-accuracy trade-off tactile feedback varied practice

Chapter 10 formal music teaching or making informal music learning or making motion capture *N* operational definition point light representation prosocial behaviors pub sessions qualitative research synchrony

Chapter 11 behavioral data cognitive flexibility correlational research or analysis crystallized intelligence experimental research extra-musical benefits far-transfer fluid intelligence general intelligence (g) inhibitory control or inhibition meta-analysis method near-transfer neurological data phonemic awareness phonological awareness pilot report or study random assignment set shifting or shifting spatial reasoning test speech-in-noise Stroop task temporal updating white gaze

Chapter 12 acoustic shock adherence to treatment auditory system auditory-motor autonomic nervous system cognitive reserve cruel, inhuman and degrading treatment (CIDT) declarative memory deep brain stimulation earworm endorphins fractional anisotropy hypothesis test inferior frontal gyrus

mechanoreceptor methodological rigor motor cortex neural substrates parallel processing pitch chroma prefrontal cortex premotor cortex protective reserve randomized review of literature reward network rhythmic auditory cueing or stimulation secondary auditory cortex striato-thalamo-cortical pathway or circuit stroboscopy Wernicke's area Chapter 13

action potential alpha oscillations anterior axon basal ganglia beta oscillations biomechanics brain function brain stem caudal central nervous system cerebellum cerebral cortex cerebrum contralateral activation

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coronal slice corpus callosum cortex cortical default mode network delta oscillations dendrites dermatone diencephalon dorsal frontal lobe glial cells gray matter gyrus/gyri hippocampus horizontal slice inferior interneurons ipsilateral activation motor neurons myelin nerves network neuroscience parallel processing parietal lobes peripheral nervous system posterior rostral sagittal slice sensory neurons soma sulcus /sulci superior synapse temporal lobes terminal theta oscillations tract ventral bottom white matter

Chapter 14 BOLD response cerebral blood flow connectivity CT DTI (Diffusion Tensor Imaging) ERP fMRI heatmap image indirect marker invasive MEG MRI NIRS (near-infrared spectroscopy) noninvasive PET (positron emission tomography) pre-existing difference primary auditory cortex regions of interest (ROI) representational similarity or dissimilarity matrix/analysis (RSA or RDA) slices standardized brain model subtraction method time series data TMS (transcranial magnetic stimulation) voxel

Chapter 15 basilar membrane Broca's area Brodmann's area (BA) case study hemispheric lateralization Heschl's gyrus involuntary muscle involuntary muscle imagery (INMI) mismatch negativity response (MMN) neuroimaging studies non-invasive occipital lobe personally relevant music phase locking primary sensorimotor cortex sensory systems social cognition supplementary motor area thalamus waitlist controls

Chapter 16

content validity data protection descriptive statistics human subjects research informants informed consent process IRB (Institutional Review Board) literature review mixed methods research neurological research Principal Investigator qualitative research research design standard deviation Tuskegee Study of Untreated Syphilis in the Negro Male