

Welcome

Dr. Peg Bledsoe, OTD, OTR/L, FAOTA, BPC

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

Figure 1. Giles Malo. Siamang Gibbon
Morney

1

**The Influences Music
Created in Therapy**

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

2

Music
*is a piece of art that goes in ears straight
to the heart*

<https://www.manseerat.com/wp-content/uploads/2017/01/Music-is-art-that-goes.jpg>

3

Presentation Objectives

1. Learn the history of music development
2. Explore a list of music associating with parts of the brain

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

4

Presentation Objectives

3. Identify the music that support physical changes
4. Identify music strategies for application to clinical practice, rehabilitation and school-based practice

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

5

Outline

- **History**
- **Music Influences**
- **Nuts and Bolt for Operations**
- **Research Studies**

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

6



History of Music

46,000 years to present day

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

7

History 46,000 BC










Figure 2. Gong Rock. (2018). Retrieved from: <https://www.megalithic.co.uk/article>

Figure 4. Aulignacian flute made from a vulture bone is between 42,000 and 43,000 years old. Retrieved from <http://www.ancient-wisdom.com/boneflute>

Figure 3. 35,000 flute made from a vulture bone (2015). Adapted and Retrieved from <https://www.cryslariks.com/prehistoric-music>

Figure 5. Dnje Babe Flute: 43,000 BP. Retrieved from: <http://www.ancient-wisdom.com/boneflute>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

8

History Prehistoric-Modern Time


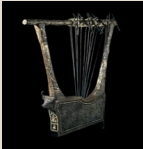





Figure 5. Conch shell trumpet. Tibet, 18th-19th century. <https://www.bbc.com/news/science-environment-18196349>, 9/5/2021.

Figure 6. Silver lyre. Royal Cemetery of Ur, now in southern Iraq, 2600 BC. <https://www.bbc.com/news/science-environment-18196349>, 9/5/2021.

Figure 7. Pig Shaped Terracotta Rattle, Cyprus, 300-100. <https://www.bbc.com/news/science-environment-18196349>, 9/5/2021.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

9

History Prehistoric-Modern Time



Figure 7. Pochette & bow with case (1660).



Figure 8. Baroque Orchestra, 1643

Copyright © 2021 [Dr. Pkg Bhsoc]. All Rights Reserved.

10

10



Figure 9. Boston Orchestra, 2015. Retrieved from <https://www.wbur.org>

Copyright © 2021 [Dr. Pkg Bhsoc]. All Rights Reserved.

11

11

Olden Times

- Development of hominid can emit sound variable pitch
- The *Anatomy* of Homo Neanderthalensis and Homo Sapiens- Both capable to creating music
- *Mousterian Period* Instruments developed

Copyright © 2021 [Dr. Pkg Bhsoc]. All Rights Reserved.

12

12

Prehistoric Man



Figure 10. Australopithecus afarensis Skull, 1992. Retrieved from: <https://australian.museum/learn/science/human-evolution/australopithecus-afarensis/>



Figure 11. 12,000-year-old Skeleton. <https://duckduckgo.com/?q=skeletons+of+prehistoric+man&nojs&images&ia=images> Copyright © 2021 [Dr. Peg Bleckw]. All Rights Reserved.

13

Beginnings of Music & Instruments

- Random noises to convey emotions
- Musical sounds have control variation of pitch
- Vocalizations VS Motor Impulse
- Controlled with speech showing emotions
- Movement hand-body clapping
- Fossil Remains suggest pitch and breath control

Copyright © 2021 [Dr. Peg Bleckw]. All Rights Reserved.

14

Definition of Brain

- Enclosed in the Skull
- Continuous with Spinal Cord
- Composed of Neurons & Supporting structures
- Integrates Sensory Information

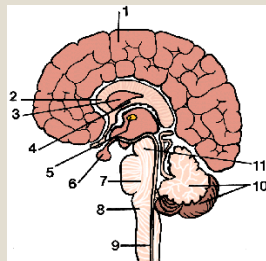


Figure 12. Brain. (2021) Retrieved from: <https://www.merriam-webster.com/dictionary/brain>.

Copyright © 2021 [Dr. Peg Bleckw]. All Rights Reserved.

15

Definition of Music

- Science/Art of ordering tones/sounds in succession
- Temporal relationship with unity and continuity
- Vocal, instrumental. Or mechanical sounds having rhythm
- An agreeable sound: voice was *music*
- a distinctive type or category of music there is a *music* for everybody

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

16

Four Purposes

Dance

- Rhythmic motion to the sounds
- People moving rhythmically together
- Grunts, claps, beating objects

Personal/Communal Entertainment

- Rhythmic work with another person
- Mother –Child movement
- Traveler Musician

17

17

Four Purposes

Communication

- Musical is widespread
- Communication Spread
- Bush telegraph (Africa)
- Drums
- Alphorn
- High Vocal Calls to other people

Ritual

- Ritual Chants for situations
- Symbolic behaviors before a meaningful event
- Intention of achieving a wide set of desired outcomes
- Reducing anxiety to boosting confidence

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

18

Music Development Over Time

<p>1920 Dominated by Jazz</p> <p>1960s The Beatles, The Rolling Stones, The Beach Boys, & James Brown etc. Rock Music</p>	<p>1920 to 1930 Traditional Pop & Swing Music</p> <p>1970 Disco Elton John, Marvin Gaye & the band Queen</p> <p>1980 MTV-Hip-hop,</p>	<p>1940 Jazz, Big Band & Swing</p> <p>21st Century Dance-Pop, Indie Rock, Emo, Pop-Punk, Contemporary R&B, Hip-Hop, Teen Pop, Boy Bands, Disney Artists, Country, Country-Pop, and Latin Pop etc.</p>	<p>1950 Elvis Presley Chuck Berry -Rock 'n' Roll</p>
---	--	--	---

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved

19

The Function of Vibrational Frequency

- Sensory Perception of the Brain Involves Levels or considerations
- Basic Survivals
- Distinguished elements (sensory process of sound, smell)
- Sound is difference – can produce it

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved

20

Sound = Vibration

Vibration

Frequency

Resonance

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved

21

Vibration Definition

- Basic Laws of the University
- Everything Moves
- Perceive Consciously or unconsciously
- High Speed movement
- Electronic switching
- Creates frequency




Figure 13. Vibration: spectrum swing color motion. 2014. Retrieved from: <https://pixabay.com/images/search/vibration%20waves/>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

22

COLOR ENERGIZING SPINAL CHAKRAS

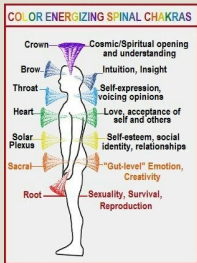



Figure 14. Color Energizing Spinal Chakras. Retrieved from: <http://balancedwomensblog.com/color-energizing-the-spinal-chakras/>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

23

Expanded Vibrational Scale of Consciousness

Emotion:	Frequency:
Enlightenment	700+
Peace	600
Joy	540
Love	500
Reason	400
Acceptance	350
Willingness	310
Neutrality	250
Courage	200
Pride	175
Anger	150
Desire	125
Fear	100
Grief	75
Apathy	50
Guilt	30
Shame	20



(E)motions = Energy in Motion. Energy Vibrates at a certain Frequency. The Law of Vibration activates the Law of Attraction & through The Law Of Deservedness you attract what you send out by the Emotions you hold in your body.

Figure 14. Energetic Vibration. (2018). Retrieved from: <http://balancedwomensblog.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

24

Frequency

- Composed of energy -producing particles
- Constance motions.
- Creating energy
- Interactions with all Energy of Chi/Qi/Prana
- Biological System




Figure 27. Vibration and Frequency-OM 2011
Retrieved from: <http://omtimes.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. ²⁵

25

Resonance

- Term used in physics
- Amount of time it takes to complete one cycle
- Number of cycles in on second
- Period/Frequency




Figure 28. Vibration: spectrum swing color motion in music. 2018. Retrieved from: <https://picaboy.com/images/search/vibration520waves/>




Figure 29. Vibrational frequency tuning fork. (2018). Retrieved from: <https://www.istockphoto.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. ²⁶

26

Resonance

Swing



Figure 30. Strumming. (2020) Retrieved from: drumstrum.com



Figure 31. 1922 Gibson F-4 Mandolin - Drum & Strum. (2021) Retrieved from: drumstrum.com



Figure 32. 14 Drums to play, Drum & Strum. (2021) Retrieved from: <https://www.drumstrum.com>

Musical Instruments

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. ²⁷

27

Acoustic Resonance

Acoustic system amplifies sound waves whose frequency matches its own frequencies of vibration

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. 28

28

Resonance Theory of Consciousness

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. 29

29

General Resonance Theory" (GRT)

- Field theory of consciousness
- Various specific fields associated with matter
- Energy at the seat of conscious awareness

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. 30

30

Vibration Frequency

- **Body part:** Natural frequency (Hz)
- **The whole body:** 7.5
- **Body torso:** 7–13
- **Head:** 8–12

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

31

Brain Waves 1920

- Electrochemical activity
- Biofeedback instrument
- Four categories
 - Different Mental Characteristics
 - Activity peaks out (high beat)
 - Full Relaxation (theta)

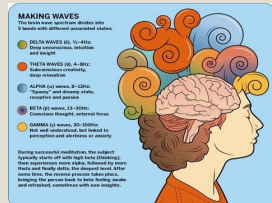


Figure 33. Brain Waves. (2020). Retrieved from: <https://www.dokaralamsu1.blogspot.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

32

Alpha Waves: (8-12/14 Hz)

- States of relaxed wakefulness
 - daydreaming
 - meditation.
- Blocked by sensory awareness
- Appear in the occipital region (visual cortex)-eyes are closed



Figure 34. Alpha Waves. (2020) Retrieved from: <http://brainworkrecovery.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

33

Beta Waves (14 Hz to 35 Hz)

- Normal, waking state of consciousness
- Alert with a focus on the everyday activities of the world
- Present during state of anxiety, tension, fear alarm

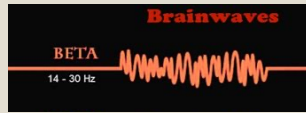


Figure 35. Beta Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

34

Theta Waves: (4 to-14 Hz)

- Found by near unconscious states
- Very deep meditation
- State of drifting off to sleep
- Rhythm connected to states of reverie and hypnagogic states

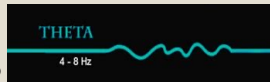


Figure 36. Theta Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

35

Delta Wave 0.1-4 Hz

- Deepest part of sleep cycle
- In the unconsciousness
- They are longest and slowest waves



Figure 37. Delta Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

36

Gamma Wave 0.1-4 Hz

- Neural oscillation
- Correlated with large scale brain network
- Cognitive phenomena
 - working memory
 - attention
 - perceptual
 - grasping.



Figure 38. Gamma Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>



Figure 39 Gamma Waves in brain. (2019). Retrieved from: <https://www.binauralbeatmeditation.com>

37

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

37

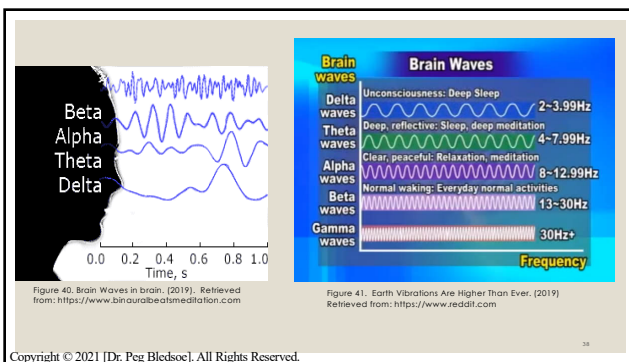


Figure 40. Brain Waves in brain. (2019). Retrieved from: <https://www.binauralbeatmeditation.com>

Figure 41. Earth Vibrations Are Higher Than Ever. (2019) Retrieved from: <https://www.reddit.com>

38

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

38

Music Application in Treatment



Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

39

Ages & Stages for Music

Pregnant Mothers
Babies
Toddlers/Children
Teenagers
Adults

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. 40

40

Nuts and Bolts

Equipment

- CD/MP3/IPOD Player
- Extra Extension Cord
- Batteries
- Play list
- Music
- Speakers




Figure 43. CD Radio (2021). Retrieved from: <https://www.google.com/CD player>.






Figure 44/45. Extension Cards (2021). Retrieved from: <https://www.google.com/Extension Cord>.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

41

Collection of CD's

- 6 Baroque Tapes (2 the later romantic time)
- 2 Jazz tapes
- 6 Special effect tapes including comedy, fanfare stretches music, TV tunes & others. (Watch Disney theme as the students will sing)

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved. 42

42

Collection of CD's

- 3 focused slower tapes
- 2 New Age upbeat
- 2 popular rock n'roll
- 2 custom tailored for the child.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

43

Function of the Music in the Classroom/Therapy

- Inspiration for students of go to new height of achievement. (Don Campbell work)
- Use of music as a learning
- Relaxing after stress or after getting discouraged.
- Rapport builder, collects or aligns and brings a whole group together.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

44

Function of the Music in the Classroom/Therapy

- Energizes and brings new life to the group.
- Comforts client when the situation calls for it
- Something to have fun with when you need a change of mindset.
- Boosts achievement by activating the thinking portion of the brain.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

45

Function of the Music in the Classroom/Therapy

- Harmonizes situations
- Classical music is very powerful way to get in touch higher nature
- Tap into greater sources of creativity
- Music supports the inspiration & spiritual intuition

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved.

46

Function of Music

- Nature provides us with such a rich array of sounds on our planet earth
- People will copy nature sounds and use them
- Variations of animal or other natural sounds combination provide calming affects

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved.

47

Function of Music

- Results show that music affects:
- Emotions
 - Respiratory System
 - Heartrate
 - Posture and Mental Images
- Effects can dramatically alter the composite mood, state and physiology of a person.

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved.

48

Music Instruments & Somatosensory & Sound

Instrument	Somatosensory	Sounds
<ul style="list-style-type: none"> Violins Flute Piano Cello Organ Drums 	<ul style="list-style-type: none"> Fine Detail Auditory Speech Direction Vision Vestibular Proprioception Movement 	<ul style="list-style-type: none"> Higher Tones Attention Detail Mid High Vision/Attention Low Tone Rhythm Vibration

Copyright © 2021 | Dr. Peg Bledsoe. All Rights Reserved. Patlie Offer Lecture SI Treatment 1998

49

Know Beat About Music:

Know the beats per minute (BPM)

- Low beats per minute 40-60 (relaxation)
- Moderate = 60-70 (Alert)
- High = 70-120 (Active)

Copyright © 2021 | Dr. Peg Bledsoe. All Rights Reserved.

50

Know the Beat of the Music

- Choose music carefully
- Know your intention for the client
- Affects the breathing and heartrate
- Observe uncomfortable behavior –change music
- Position, fun and loving attitudes

Copyright © 2021 | Dr. Peg Bledsoe. All Rights Reserved.

51

What Music to Use

Use in the following situations:

- Background music during presentation (Baroque)
- Celebration of success (Fanfare or hallelujah)

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved.

52

What Music to Use

- Introduce new topic (special flavor or themes)
- Mindset for learning (Baroque or Classical)
- Singing and expression (traditional vocals)
- Storytelling (Classical or Baroque)

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved.

53

What Music to Use

- Testing/performance (Baroque)
- Transition time (Popular Music)
- Visualization/imagery (New Age)

Copyright © 2021 | Dr. Peg Bledsoe | All Rights Reserved.

54

Consideration for Music

- Explain that you listen to music
- Understand the extent of your relationship you have with the child/client
- Do research on your child/adult ahead of time
- Length of music depends on the reaction of the child

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

55

Consideration for Music

- The volume to make it easier on the ear.
- Increase volume gradually
- Sensitive child/adult, start slower and build up.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

56

The Keys

- Look for the non-verbal cues of the child/client.
- Observe when you change the state of the listener.
- Music can change the behavior or your students.

Copyright © 2021 [Dr. Peg Bledsoe]. All Rights Reserved.

57

The Safety Consideration:

- Noise refers to any loud, unmusical, disagreeable sound.
- What is loud will depend on the current state of your audiological health and your personal state.
- If you have sustained hearing damage -sounds may register on your ear as too soft or loud.

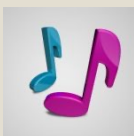
Copyright © 2021 | Dr. Peta Blodsoe | All Rights Reserved

58

What Next?

First

1. Identify a situation
2. Prioritize the problems
3. Find the music



Then

1. Play music with activities
2. Observe behavior
3. Note changes over time
4. Enjoy the process

Copyright © 2021 | Dr. Peta Blodsoe | All Rights Reserved

59

Kinds of Music Programs

A type of sound therapy

- Tomatis Music Program
- Auditory Integration Training, (AIT)
- Therapeutic Listening
- Safe and Sound Protocol (SSP)

Copyright © 2021 | Dr. Peta Blodsoe | All Rights Reserved

60

Research Outcomes

- # 1. Music as a Therapeutic Medium for Occupational Engagement: Implications for Occupational Therapy
- # 2. Occupational therapy and the use of music tempo in the treatment of the mental health care user with psychosis

Copyright © 2021 | Dr. Poo Bledsoe | All Rights Reserved

61

Research Outcomes

- # 3. Music therapy and other music-based interventions in pediatric health care: An overview.
- # 4. Music therapy in adults with COPD
- # 5. Music in the relief of stress and distress in cancer patients

Copyright © 2021 | Dr. Poo Bledsoe | All Rights Reserved

62

*Listen, play &
Dance to learn*

Copyright © 2021 | Dr. Poo Bledsoe | All Rights Reserved

63


Thanks!
 Any questions?
 You can find me at
 drpegot349@gmail.com

Copyright © 2021 | Dr. Pae Blodsoe | All Rights Reserved

64

Figures

- Figure 1. Giles Malo: Siamang Gibbon Money South Florida Zoo. (2021). Adapted and Retrieved from <https://www.dreamstime.com/gillmaloinfo>; freephotos
- Figure 2. Gong Rock. (2018). Retrieved from: <https://www.megalithic.co.uk/article>.
- Figure 3. Prehistoric Flutes. (2015). Adapted and Retrieved from <https://www.crystalinks.com/prehistoric-music.html>.
- Figure 4. Earlies Flutes. Adapted and Retrieved from <https://www.bbc.com/news/science-environment-18196349>, 9/5/2021.
- Figure 5. Conch shell trumpet. Tibet, 18th–19th century. Adapted and Retrieved from <https://www.music-world.org/600-bc-340-bc>, 9/5/2021.

Copyright © 2021 | Dr. Pae Blodsoe | All Rights Reserved

65

Figures

- Figure 6. Silver lyre. Royal Cemetery of Ur, now in southern Iraq, 2600.(2021) Adapted and Retrieved from <https://www.music-world.org/600-bc-340-bc>.
- Figure 7. Pochette & bow with case (Paris, ca.1660).(2021). London, Victoria and Albert Museum Retrieved from <https://musiq.education/listen/study-pieces/baroque-instrumental-music>.
- Figure 8. Baroque orchestra (1643) Adapted and Retrieved from Baroque art, Music art, Music painting <https://www.pinterest.com/pin/534732155737674453/>
- Figure 9. Boston Orchestra 2015. Retrieved from <https://www.wbur.org/news/2015/08/26/bmop-lukas-foss>
- Figure 10. Australopithecus afarensis Skull, 1992. Retrieved from: <https://australian.museum/learn/science/human-evolution/australopithecus-afarensis/>

66

Figures

- Figure 11. 12,000-year-old Skelton. Retrieved from: <https://duckduckgo.com/?q=skeltons+of+prehistoric+man&t=osx&iax=images&ia=image>
- Figure 12. Brain. (2021) Retrieved from: <https://www.merriam-webster.com/dictionary/brain>
- Figure 13. Vibrational Waves, (2018). Retrieved from: <https://www.istockphoto.com/search/2/image?phrase=Frequency>
- Figure 14. Figure 14. Color Energizing Spinal Chakras. Retrieved from: <http://www.balancedwomensblog.com>
- Figure 15. Vibration and Frequency-OM 2011 Retrieved from: <http://www.omtimes.com/2011/08/vibrations-and-frequency>

67

Figures

- Figure 16. Vibration: spectrum swing color motion in music. 2018, Retrieved from: <https://www.pixabay.com>
- Figure 17. Vibrational frequency tuning fork, (2018). Retrieved from: <https://www.istockphoto.com>
- Figure 18. 1922 Gibson F-4 Mandolin - Drum & Strum. (2021). Retrieved from: <https://www.drumnstrum.com>
- Figure 19. 14 Drums to play. Drum & Strum. (2021). Retrieved from: <https://www.drumnstrum.com>
- Figure 20. Strumming, (2020). Retrieved from: <https://www.drumnstrum.com>
- Figure 21. Alpha Waves. (2020) Retrieved from: <https://www.brainworksneurotherapy.com>
- Figure 22. Beta Waves. (2020) Retrieved from: <https://www.brainworksneurotherapy.com>
- Figure 23. Theta Waves. (2020) Retrieved from: <https://www.brain>

68

Figures

- Figure 24. Delta Waves. (2020) Retrieved from: <https://www.brainworksneurotherapy.com>
- Figure 25. Gamma Waves. (2020) Retrieved from: <https://www.brainworksneurotherapy.com>
- Figure 26. Gamma Waves in the Brain. (2020) Retrieved from: <https://www.brainworksneurotherapy.com>
- Figure 27. Vibrational frequency, (2018). Retrieved from: <https://www.istockphoto.com>
- Figure 28. Vibration: spectrum swing color motion in music. 2018, Retrieved from: <https://www.pixabay.com/images/search/vibration%20waves/>
- Figure 29. Vibrational frequency tuning fork, (2018). Retrieved from: <https://www.istockphoto.com>
- Figure 30. 14 Drums to play. Drum & Strum. (2021). Retrieved from: <https://www.drumnstrum.com>
- Figure 30. Strumming, (2020). Retrieved from: <https://www.drumnstrum.com>

69

Figures

- Figure 32. 14 Drums to play. Drum & Strum. (2021). Retrieved from: <https://www.drumnstrum.com>
- Figure 33. Brain Waves. (2020). Retrieved from: <https://www.dekorasialamsufi.blogspot.com>
- Figure 34. Alpha Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>
- Figure 35. Beta Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>
- Figure 36. Theta Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>
- Figure 37. Delta Waves. (2020) Retrieved from: <https://brainworksneurotherapy.com>
- Figure 38. Gamma Waves. (2019). Retrieved from: <https://www.binauralbeatsmeditation.com>
- Figure 39. Gamma Waves in brain. (2019). Retrieved from: <https://www.binauralbeatsmeditation.com>

70

Figures

- Figure 39. Gamma Waves in brain. (2019). Retrieved from: <https://www.binauralbeatsmeditation.com>
- Figure 40. Gamma Waves in brain. (2019). Retrieved from: <https://www.binauralbeatsmeditation.com>
- Figure 42. The Roby Chart (2004). Retrieved from: <https://www.robychart.com>
- Figure 43. CD Radio (2021). Retrieved from: <https://www.google.com/CD player>.
- Figure 44/45. Extension Cords (2021). Retrieved from: <https://www.google.com/Extension Cord>.

71

References Web Sites

- Brain Waves:** <https://brainworksneurotherapy.com/what-are-brainwaves>
- Chakra sites:** <https://chopra.com/articles/what-is-a-chakra>
<https://chakramagic.com>
<https://www.lifeforcepractices.com>
<https://www.wellandgood.com/what-are-chakras/>
- Energy Healing:** <https://www.the-energy-healing-site.com/chakras.html>
- Infant Massage:** <https://www.infantmassageusa.org>
- Interactive Metronome:** <https://www.interactivemetronome.com>
- iLS Listening Program** (Polvagal Theory <https://integratedlistening.com/porges/>)
- Sensory Processing:** Star Program: <https://www.spdstar.org/basic/understanding-sensory-processing-disorder>
- Vital Links:** <https://vitallinks.com/course/therapeutic-listening/>

72

References

Alcantara, M., (2011). *Chakra healing: A beginner's Guide to self-help*. Berkeley, CA: Althea Press.

Amen, D., (1998). *Change your brain change your life: The breakthrough program for conquering anxiety, depression, obsessiveness, anger, and impulsiveness*. New York, New York: Three Rivers Press.

Anderson, E., & Emmon P. "Unlocking the Mysteries of Sensory Dysfunction." Arlington, Texas: Future Horizon, Inc: ISBN 1-885477-25-2

Aron, Elaine, "The Highly Sensitive Person: How to Thrive When the World Overwhelms You." New York, New York: Birch Lane Press Book: Carol Publishing Group. ISBN1-55972-350-5

Ayres, A. J. (1972). *Sensory Integration and learning disabilities*. Boston: Boston University.

Ayres, A. J. (1973). *The body senses and perceptual deficits*. In A. Henderson & J Coryell (eds). Los Angeles: Western Psychological Services.

Ayres, A. J. (1973). *Sensory Integration and the child*. Los Angeles: Western Psychological.

Barrett, L., F., (2017). *How emotions are made: The secret life of the brain*.

73

Biel, L. and Peske N. "Raising a sensory smart child: The definitive handbook for helping your child with sensory integration issues." New York, NY: Penguin Books ISBN:0-14303488-X.

Blanche, E.I. (1996). The Impact of Sensory Processing on Early Child Development. In Newton-Inamura, K. *SI for Early Intervention—A Team Approach*. San Antonio, Texas: Therapy Skill Builders, pp. 1-18.

Blanche, E.I. & Parham, E. D., (2001). Praxis and organization of behavior in time and space. In S. S. Roley, E.I. Blanche & R. C. Schaffe (Eds). *Understanding the nature of sensory integration with diverse populations*. (1163-200). Tucson, AZ: Therapy Skill Builders.

Boster, J., Spitzley, A., Castle, T., Jewell, A., Corso, C., and McCarthy, J. (2021) Music improves social and participation outcomes for individual's communication disorders: a systematic review. *Journal of Music Therapy*, V 58, (1), p12-42. <https://doi.org/10.1023/jm17haq015>

Brewer, C., & Campbell, D.G., (1991). *Rhythms of learning: Creative tools for developing lifelong skills*. Tucson, AZ: Zephyr Press, Inc. ISBN: 0-913705-59-4

74

Reference

Bundy, A. C. & Murray, E. A. (2002). *Sensory Integration: A. J., Ayres; theory revisited*. In A.C., Bundy, S.J. Lane, & E. A. Murray (Eds). *Sensory integration: Theory and practice*.

Carey, D., Franklin, E., Ponton, J., Ponton., P & Angelo, M. (2010). *Autonomic from galaxies to cells: Planetary science, harmony, and medicine*. Llano, New Mexico: Devachan Press.

Cohn, J., Kowalski, K., Z., & Swarbrick, M. (2017) Music as a therapeutic medium for occupational engagement: implications for occupational therapy. *Occupational Therapy in Mental Health*, 33:2, 168-178, DOI: 10.1080/0164212X.2016.1248311

Condon, W., & Sander, L. (1974). *Neonate movement is synchronized with adult speech: Interactional participation and language acquisition*. *Science*, 111(99).

Condon, W., (1975). Multiple responses to sound in dysfunctional children. *Journal of Autism and Childhood Schizophrenia*, 5, 37-56.

Curtis, G. & Schuler, J. (2008). *Your pregnancy week by week*. Philadelphia, PA: Da Capo Press. ISBN: 978-0-7382-1108-4.

Culver, C. A. (1954). *Musical Acoustics (4th ed.)*. New York: Mc Graw-Hall Book Company.

75

References

Daniel G. Craig (2008) An Overview of Evidence-Based Support for the Therapeutic Use of Music in Occupational Therapy, *Occupational Therapy in Health Care*, 22(1), 73-95 . DOI: 10.1080/1003v22n01_06

Dale, C., (2013). *The subtle body practice manual: A comprehensive guide to exergy healing*. Boulder, CO: Sounds True.

Dana, D., (2020). *polyvagal exercises for safety and connection: 50 client-centered practices*. New York, New York: WW Norton & Company.

Dana, D., (2020). *The polyvagal theory in Therapy: Engaging the rhythm of regulation*. New York, New York: WW Norton & Company.

De Casper, C. S. & Fifer, W., P., (1980). Of human bonding: Newborn prefer their mothers' voices. *Science*, 208, p 1174-1176.

DeGangi, G. A., & Porges, S., W. (1991). Attention/Alertness/arousal. In C. B., Royden (Eds), *ATOAT Self-Study Series*: Rockville, MD: The American Occupational Therapy Association.

Ditmann, R., (2012). *Brighton baby: The complete Guide to preconception & conception*. Bloomington, Indiana: Baboo Press.

74

76

References

Eden, D., & Feinstein, D., (2008). *Energy medicine: Balancing your body's energy for optimal health, joy, and vitality*. New York, New York: Penguin Books.

Eliot, L., (1999). *What's Going on the in There? How the brain and mind develop in the first five years of life*. New York: Bantam Books.

Feldenkrais, M. (1976). On the primacy of hearing. *Somatic*. 1(1), p 19-21.

Fisher, A., G., Murray, E.A., & Bundy, A.C., (Eds.) (1991). *Sensory integration: Theory and practice*. Philadelphia: F.A. Davis Company.

Frick, S., M., (2002). An overview of auditory interventions. *Sensory Integration Quarterly*; 1-3

Frick, S., M., (2000). Therapeutic: Listening. In A. C. Bundy, S. J. Lane & E. A. Murray (Eds.), *Sensory integration: Theory and practice*, (2nd ed.), Philadelphia: F. A. Davis.

Frick, S., M. & Lawton-Shirley, N. (1994, December). Auditory Integrative Training from a Sensory Integrative Perspective. *AOIA Sensory Integration Special Interest Section Newsletter*, 17(4), 1-3.

77

77

References

Furnham, A., & Bradley, A., (1999) Music while you work: The differential distraction of background music on the cognitive test performance of introverts and extroverts. *Applied Cognitive Psychology*, 11 (5), pp 445-455. doi.org/10.1002/(SICI)1099-0720(199910)11:5

Hall, L., & Case-Smith, J., (2007). The effect of sound-based intervention of children with a sensory processing disorder and visual-motor delays. *The American Journal of Occupational Therapy*. 61(2), p 209-215.

Heller, Sharon; Ph.D.: *"too loud too bright too fast too tight"* Quill: Harper Collins Publishers, 2003, ISBN: 0-06-093292-9

Hernandez-Ruiz, E. (2020). Feasibility of parent coaching of music interventions for children with autism spectrum disorder. *Music Therapy Perspectives*, 38(2), 195-204. <https://doi.org/10.1093/mtp/miz016>

Hopkins, B. & Johnson, S. (2005). *Prenatal development of postnatal functions*. Westport, C. Praeger Publishers.

78

References

- Hopson, J., L. (1998 October). Fetal psychology, *Psychology Today* (31)44-49.
- Horowitz, L. & Rost, C., (2001) "Helping Hyperactive Kids-A Sensory Integration Approach: Techniques and Tip for Parents and Professionals. Berkeley CA: Publishers Group West
- Hunt, V., (1996). *Infinite mind the science of human vibration consciousness*. Malibu, CA: Malibu Pub; 2nd edition ISBN-10: 0964398818
- Hunt, V., (1995). *Infinite mind the science of human vibration*. Malibu, CA: Malibu Publishing Co. ISBN-10: 096439880X
- Lucker J., R., Doman, A., (2015). Neural mechanisms involved in hyper sensitive hearing: Helping children with and who are overly sensitive to Sounds. *Aufism Research and Treatment*. 369035. doi: 10.1155/2015/369035. Epub PMID: 26823983; PMCID: [PMC4707379](https://doi.org/10.1155/2015/369035). <https://doi.org/10.1155/2015/369035>.
- Jampolsky, G., & Dirincion, D., (1994). *Change your mind, change your life*. New York, New York: Bantam Books.

79

Reference

- Jensen, E., (1995). *Brain-based learning & teaching*. Del Mar, CA: Turning Point Publishing. ISBN: # 0-9637832-1-1.
- Jourdain, R., (1997). *Music, the brain, and ecstasy: How music captures our imagination*. New York, New York: William Morrow and Company, Inc.
- Kimball, J.G., (1993). Sensory integrative frame of reference. In P. Kramer & J. Hinojosa (eds). *Frames of reference for pediatric occupational therapy*. Baltimore: William & Wilkins.
- Kish, D., & Bleier, H., (2000). Echolocation: What it is, and how it can be taught and learned. (pp-1-19).
- Koomar, J., Burpee, J. D., DeJean, V., Frick, S. M., Frick, S., M., Kawar., M., & Fischer, D., M. (2000). Theoretical and clinical perspective on the Interactive Metronome: A view fro occupational therapy practice. *The American Journal of Occupational Therapy*: 55(2), 163-166.

80

References

- Kopp, C. (1982) Antecedents of self-regulation: A developmental perspective. *Developmental Psychology* 18 (2): 199-214
- Levitin, D., J. (2007). *This is your brain on music: The science of a human obsession*. Plume/Penguin House, LLC. ISBN: 0-525-94960-0.
- Madaule, P. (1993). *When listening comes alive*. Canada: Norval, Ontario: Moulin Publishing.
- Maurer, D., & Maurer, C. (1988). *The world of the newborn*. New York: Basic Books.
- Marley M, Smyth G. Are Occupational Therapy Interventions for Service Users with Mental Health Problems Cost-Effective? *British Journal of Occupational Therapy*. 2013;76(10):470-473. doi:10.4276/030802213X13807217284305
- Moore, J., D., (1972). Cranial nerves and their importance in current rehabilitation techniques. In A. Henderson & J. Coryell (Eds.). *The body senses and perceptual deficits*. Boston: School of Occupational Therapy, Boston University.
- Musiek, F., Mohanani, A., Wierzbinski, E., Kilgore, G., Hunter, J., Marotto, J. (2011). The non-classical pathway: Too great to be ignored. *The Hearing Journal* (64, 10) p 6,8 doi:10.1097/01.HJ.0000406765.34487.d4

81

References

Newton-Inamura, K. *SI for Early Intervention—A Team Approach*. San Antonio, Texas: Therapy Skill Builders, pp. 1-18.

Palkhivala, A. (2006). Bounding babies to the beat of language. *Bulletin of the Centre of Excellence for Early Childhood Development*, 5(2), 7.

Phillips-Silver, J., & Trainor, L. J., (2005). Feeling the beat: Movement influences infant rhythm perception. *Science*, 308, 1430.

Robinson, C., W., & Sloutsky, V., M., (2004). Auditory dominance and its change in the course of development. *Child Development*, 75(5), 1387-1401.

Shahidulah, S., & Hepper, P., (1992). Hearing and the fetus: Prenatal detection of deafness. *International Journal of Prenatal and Perinatal Studies*, 4(3/4), 235-240.

Shumsky, S., (2017). *The big book of chakras and chakra healing: How to unlock your seven energy centers for healing, happiness, and transformation*. Berkeley, CA: Althea Press.

82

References

Siddle, D., (1993). *Orienting and habituation: perspectives in human research*. New York: John Wiley & Sons.

Sills, F., (2011). *Foundations in Craniosacral biodynamics: The breath of life and fundamental skills*. Berkeley, CA: North Atlantic Books

Spittle, A., Orton, J., Anderson, P., Boyd, R., Doyle, L., (2015). Early development intervention programs provided post-hospital discharge to prevent motor and cognitive impairment in preterm infants. *Cochrane Database of Systematic Review*, 11(CD0005495). DOI: 10.1002/14651858.CD005495.pub4.

Srinivasan T. (2010). Energy medicine. *International journal of yoga*, 3(1), <https://doi.org/10.4103/0973-6131.66770>

Stegemann, T., Geretsegger, M., Phan Quoc, E., Riedl, H., and Smetana, M. (2019) Music therapy and other music-based interventions in pediatric health care: An overview *Medicines*, 6, 25; doi:10.3390/medicines6010025 www.mdpi.com/journal/medicines

83

References

Strauss, M., van Heerden S., Joubert, G. (2016). Occupational therapy and the use of music tempo in the treatment of the mental health care user with psychosis. *South African Journal of Occupational Therapy*, 46(1). Print: ISSN 0038-2337 On-line version ISSN 2310-3833, <http://dx.doi.org/10.17159/2310-3833/2016/v46n1a6>

Wilking, P.E., (1993). *Prenatal and postnatal responses to music and sound stimuli: A clinical report*. In T. Blum (Ed), Berlin: Leonardo.

Hemisyc, (1985) *Metamusic*. Nellysford, VA: Interstate Industries

Hunt, V., (1998) *Music of light: the only authentic auric tapes*. Malibu: CA Malibu Publishing CO.

84

Cherri-O
with
Music About!
