Jordan Bailey

Second Sources Assignment

Primary Sources

1. Ribeiro, F. S., Santos, F. H., Albuquerque, P. B., & Oliveira-Silva, P. (2019). Emotional induction through music: Measuring cardiac and electrodermal responses of emotional states and their persistence. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.00451

Abstract: This study focused on capturing the curve of emotional states, being monitored with valence and arousal self-report measures, and used musical excerpts to generate these states. The results show that carefully selected positive and negative excerpts can be effective in inducing happy and sad states.

2. Wilson, A. D., & Golonka, S. (2013). Embodied Cognition is not what you think it is. *Frontiers in Psychology*, *4*. https://doi.org/10.3389/fpsyg.2013.00058

Abstract: This article explains both the standard cognitive approach to explaining behavior and introduces the *replacement hypothesis* of embodied cognition. A research guide is recommended for any work done within the embodied cognition field.

3. Khalfa, S., Isabelle, P., Jean-Pierre, B., & Manon, R. (2002). Event-related skin conductance responses to musical emotions in humans. *Neuroscience Letters*, *328*(2), 145–149. https://doi.org/10.1016/s0304-3940(02)00462-7

   Abstract: This study tried to verify whether or not emotional reactions to music would induce autonomic nervous system responses. This article used the Skin Conductance Response (SCR) to measure these responses to four musical emotions: fear, happiness, sadness, and peacefulness. Results show that SCRs can be brought up and changed by musical emotional arousal but aren't sensitive to emotional clarity.

4. Khalfa, S., Roy, M., Rainville, P., Dalla Bella, S., & Peretz, I. (2008). Role of tempo entrainment in psychophysiological differentiation of happy and sad music? *International Journal of Psychophysiology*, *68*(1), 17–26. https://doi.org/10.1016/j.ijpsycho.2007.12.001

   Abstract: This study intended to find out whether fast and slow rhythms or tempo alone are sufficient in inducing different physiological effects like electrodermal, facial muscle activity, blood pressure, and heart/respiration rate. The results found that happy and sad music are significantly differentiated by blood pressure, electrodermal activity, and zygomatic activity, while fast and allow tempo control didn't elicit differentiations.

5. Fuentes-Sánchez, N., Pastor, R., Escrig, M. A., Elipe-Miravet, M., & Pastor, M. C. (2021). Emotion elicitation during music listening: Subjective self-reports, facial expression, and autonomic reactivity. *Psychophysiology*, *58*(9). https://doi.org/10.1111/psyp.13884

   Abstract: This study investigated subjective and physiological correlates of inducing emotions through music, following the three-dimensional *and* discrete emotion model. Overall, this study found standardized film music excerpts evoked powerful emotions under laboratory settings.

6. Dibben, N. (2004). The role of peripheral feedback in emotional experience with music. *Music Perception*, *22*(1), 79–115. https://doi.org/10.1525/mp.2004.22.1.79

   Abstract: Two experiments were conducted in order to determine the intensity and valence of emotion experienced while listening to music. They found that arousal influences the intensity of emotion experienced with music and that people use their body state as information about the emotion felt while listening to music.

7. Etzel, J. A., Johnsen, E. L., Dickerson, J., Tranel, D., & Adolphs, R. (2006). Cardiovascular and respiratory responses during musical mood induction. *International Journal of Psychophysiology*, *61*(1), 57–69. https://doi.org/10.1016/j.ijpsycho.2005.10.025

Abstract: This study hypothesized that cardiovascular and respiratory patterns could discriminate moods induced via music. Subjects consistently reported experiencing the targeted mood, and in many cases strong emotions. Median emotional intensity ratings for fear/happiness (on a scale from 0 to 9) is 6 and 4 for the sadness induction scale.

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8. Gomez, P., Zimmermann, P. G., Guttormsen Schär, S., & Danuser, B. (2009). Valence lasts longer than arousal. *Journal of Psychophysiology*, *23*(1), 7–17. https://doi.org/10.1027/0269-8803.23.1.7

Abstract: This study investigated the persistence of four different moods (positive-high arousal, positive-low arousal, negative high-arousal, and negative-low arousal) induced by film clips. Induced emotions in the arousal dimension dissipated quickly while changes in the valence dimension are maintained throughout the intervening task.

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9. Van der Schyff, D., & Schiavio, A. (2017). Evolutionary musicology meets embodied cognition: Biocultural coevolution and the enactive origins of human musicality. *Frontiers in Neuroscience*, *11*. https://doi.org/10.3389/fnins.2017.00519

Abstract: This paper discusses the nature vs culture assumptions driving the discussion on musicology and suggests an alternative method which draws from methods such as

embodied and ecological cognition, dynamical systems theory, archeology, neuroscience, and theoretical biology.

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10. Chapin, Joshua. (2019). Electrodermal activity during dissonant music in musicians and non-musicians. *Master's Theses*. 5092.

Abstract: In this master's theses, the subjective and physiological responses were recorded to consonant and dissonant music in musicians and non-musicians. The results support the hypothesis that musical experience and education influences perceptual and physiological responses to dissonance.

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11. Taruffi, L., Pehrs, C., Skouras, S., & Koelsch, S. (2017). Effects of sad and happy music on mind-wandering and the default mode network. *Scientific Reports*, *7*(1). https://doi.org/10.1038/s41598-017-14849-0

Abstract: The influence of *happy* and *sad* music on mind wandering and its underlying neuronal mechanisms are investigated through fMRI recordings. The results demonstrate that when listening to *sad* vs happy music, people draw their attention inward, and engage in self-referential cognitive processes.

12. White, E. L., & Rickard, N. S. (2015). Emotion response and regulation to “happy” and “sad” music stimuli: Partial synchronization of subjective and physiological responses. *Musicae Scientiae*, *20*(1), 11–25. https://doi.org/10.1177/1029864915608911

Abstract: *Happy* and *sad* emotional states are induced in this study through musical stimuli. Some of the results from the paper support their hypotheses on the inductions, while others give mixed results and further implications on “sadness”.

Secondary Sources

1. Cox, A. (2017). *Music and embodied cognition: Listening, moving, feeling, and thinking*. Indiana University Press.

Abstract: This book advances Arnie Cox’s theory of the mimetic hypothesis, that a large part of our understanding of music involves embodied *imitation* in the listeners bodily motions and exertions.

2. Bortz, B., Jaimovich, J., & Knapp, R. B. (2019). Cross-cultural comparisons of affect and electrodermal measures while listening to music. *2019 8th International Conference on*

Affective Computing and Intelligent Interaction (ACII).

https://doi.org/10.1109/acii.2019.8925476

Abstract: This article looks through the many Emotion in Motion (EiM) self-reported affective responses to musical stimuli within the past decade in order to illustrate "salient electrodermal responses", many of which are across disparate cultures and geographic locations, specifically across Europe and Asia.

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3. Perlovsky, L. (2015, April 28). *Origin of music and embodied cognition*. Frontiers in psychology. Retrieved September 12, 2022, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4411987/

   Abstract: As the title suggests, it goes over the history of music and embodied cognition, but he advocates for a hypothesis that music has a specific cognitive function to embody abstract thoughts. The article talks about Knowledge Instinct (KI), mental hierarchy, language representations, cognitive representations, cognitive dissonance, and the emergence of music.

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4. Dell'Anna, A., Leman, M., & Berti, A. (1AD, January 1). *Musical Interaction reveals music as embodied language*. Frontiers. Retrieved September 12, 2022, from https://doi.org/10.3389/fnins.2021.667838

Abstract: This specific study aims to suggest that the correct way to capture the social interactive nature of music would be to think of it as an embodied language, rooted in culturally adapted brain structures. Many studies within the embodied music cognition field are referenced, and a framework for music as an embodied language is employed.

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5. Shapiro, L. A., Leman, M., & Maes, P.-J. (2017). Music Perception and Embodied Music Cognition. In *The Routledge Handbook of Embodied Cognition* (pp. 81–89). essay, Routledge.

   Abstract: This specific chapter within this book is entirely about music perception and embodied music, and lists both evidence and critiques for music perception as embodied cognition. Many studies listed tested music and its interaction with movement, sensorimotor learning, expressions, and emotional states.

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6. Huron, D. (2008). Measuring Musical Expectations. In *Sweet Anticipation: Music and the psychology of expectation* (pp. 41–57). essay, MIT.

Abstract: As the title suggests, this book lays out a general theory of *expectation* and shows how music/musical devices can exploit certain psychological opportunities. Chapter 3 specifically mentions 8 different methods of measuring musical expectations within various studies.

7. Maes, P.-J. (2016). Sensorimotor grounding of musical embodiment and the role of prediction: A Review. *Frontiers in Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.00308

Abstract: This article advocates rigorously for evidence of the embodiment thesis through music perception and performance. There is an emphasis on the role of long-term processing involving prediction with how humans interact with music.

8. Clayton, M. (2012). What is entrainment? definition and applications in musical research. *Empirical Musicology Review*, *7*(1-2), 49–56. https://doi.org/10.18061/1811/52979

Abstract: This article defines entrainment in a general sense and discusses its importance in studies with inter-personal coordination and references many published studies that suggest the importance of musical entrainment in the study of human social interaction.