

BAB V

PENUTUPAN

A. Kesimpulan

Penelitian ini menunjukkan bahwa mendengarkan musik instrumental jazz dapat meningkatkan *selective attention* mahasiswa, ditunjukkan oleh penurunan *response time* (RT) dan *error rate* (ER) secara signifikan dari kondisi hening (*pretest*) ke kondisi saat stimulus musik diberikan (*posttest*). Musik instrumental jazz bergaya *bebop*, yang memiliki tingkat *arousal* lebih tinggi dengan karakteristik musicalnya seperti tempo yang cepat, mampu menurunkan RT yang secara signifikan lebih besar dibandingkan *ballad jazz*. Penurunan RT tersebut menunjukkan pengaruh peningkatan kecepatan respons. Meskipun tidak menurunkan RT sebesar *bebop*, musik instrumental jazz bergaya *ballad* juga terbukti menurunkan RT dan ER secara signifikan, yang menunjukkan kontribusinya dalam memfasilitasi *arousal* secara optimal guna mendukung kinerja *selective attention*. Tidak terdapat perbedaan signifikan pada ER dan skor *attention* EEG antara kedua gaya tersebut, walaupun terdapat tren yang menunjukkan bahwa *bebop* sebagai *high-arousing music* cenderung sedikit lebih efektif dalam menjaga akurasi yang ditunjukkan oleh ER dan *alertness* yang ditunjukkan oleh skor *attention* EEG. Temuan dalam penelitian ini menunjukkan bahwa melalui mekanisme dimensi *arousal*, musik instrumental jazz terbukti dapat memengaruhi *selective attention* mahasiswa secara signifikan. Namun,

efektivitas pengaruhnya dapat bervariasi tergantung pada karakteristik dari gaya musik yang digunakan, seperti kompleksitas musical dan tempo serta potensi *overstimulation*-nya, yang secara spesifik turut memodulasi kinerja *selective attention* tersebut.

B. Saran

Berdasarkan temuan yang diperoleh dan keseluruhan penelitian, peneliti merumuskan beberapa saran yang kiranya dapat digunakan baik dalam konteks praktis pendidikan ataupun sebagai titik dasar eksplorasi lebih lanjut dalam penelitian serupa di masa mendatang.

1. Musik instrumental jazz dapat dijadikan opsi musik latar yang efektif untuk meningkatkan *selective attention* pada mahasiswa saat dalam proses belajar atau pekerjaan kognitif lainnya. Pemilihan gaya musical sebaiknya disesuaikan dengan kebutuhan kognitif terkait.
2. Bagi praktisi pendidikan, temuan penelitian ini dapat menjadi acuan yang patut dipertimbangkan dalam merancang lingkungan belajar yang memperhatikan stimulus *auditory* secara menyeluruh dan kontekstual berbasis empiris, dalam rangka mendukung kinerja kognitif mahasiswa seperti halnya *selective attention*.
3. Peneliti merekomendasikan bagi peneliti selanjutnya untuk mengeksplorasi pengaruh spesifik dari aspek-aspek lainnya baik dari sisi musical ataupun dimensi lainnya, dan juga membandingkan dengan instrumen lain ataupun format yang berbeda. Selain itu, peneliti selanjutnya disarankan untuk menambahkan metode

pengukuran yang lebih komprehensif dan akurat. Peningkatan pemahaman mendalam terkait teori dan mekanisme *attention system* serta penambahan jumlah dan diversitas partisipan pun sangat disarankan bagi peneliti selanjutnya. Turut dianjurkan pula untuk penggunaan EEG dengan spesifikasi perangkat yang lebih tinggi apabila data neurosains dijadikan sebagai salah satu variabel utama, guna hasil dan interpretasi yang lebih presisi serta mendalam.



DAFTAR PUSTAKA

- Abhang, P. A., Gawali, B. W., & Mehrotra, S. C. (2016). Technological Basics of EEG Recording and Operation of Apparatus. In *Introduction to EEG- and Speech-Based Emotion Recognition* (pp. 19–50). Elsevier.
- Allo, A., Abdurrahman, A., & Rahmawati, I. (2021). Musik Klasik Terhadap Konsentrasi Belajar Mahasiswa Keperawatan. *JIK (Jurnal Ilmu Kesehatan) Oktober*, 5(2). 60-67.
- Andita, C. D., & Desyandri, D. (2019). Pengaruh penggunaan musik terhadap konsentrasi belajar anak sekolah dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 1(3), 205-209.
- Anderson, C. A., Filley, C. M., Arciniegas, D. B., & Kelly, J. P. (2013). Arousal. In *Cambridge University Press eBooks* (pp. 88–97).
- Ashley, R. (2002). Do[n't] Change a Hair for Me: The Art of Jazz Rubato. *Music Perception an Interdisciplinary Journal*, 19(3), 311–332.
- Avila, C., Furnham, A., & McClelland, A. (2012). The influence of distracting familiar vocal music on cognitive performance of introverts and extraverts. *Psychology of Music*, 40(1), 84-93.
- Barkley, R. A. (1988). Attention. In M. Tramontana & S. Hooper (Eds.), *Assessment issues in child neuropsychology* (pp. 145–176). Plenum Press.
- Broadbent, D. E. (1958). Perception and communication. In *Pergamon Press*.
- Capri, T., Fabio, R. A., Towey, G. E., & Antonietti, A. (2019). Current theory. In T. Capri, R. A. Fabio, G. E. Towey, & A. Antonietti (Eds.), *Attention today* (pp. 1–40). Nova Science Publishers.
- Campbell, D. T., & Stanley, J. C. (1963). Experimental and quasi-experimental designs for research. In N. L. Gage (Ed.), *Handbook of research on teaching* (pp. 1–76). Rand McNally.
- Cheah, Y., Wong, H. K., Spitzer, M., & Coutinho, E. (2022). Background Music and Cognitive Task Performance: A Systematic Review of Task, Music, and Population Impact. *Music and Science*, 5, 1–44.
- Cherry, E. C. (1953). Some Experiments on the Recognition of Speech, with One and with Two Ears. *The Journal of the Acoustical Society of America*, 25(5), 975.
- Cohen, R. A. (2014). *The Neuropsychology of attention* (2nd ed.). Springer Science & Business Media.
- Creswell, J. W. & Creswell J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage Publications.
- Dalbokova, D., Kolev, P., & Kristeva, R. (1988). Selective attention in the presence of music: An event-related potentials (ERP) study. *Biological Psychology*, 26(1–3), 307–319.
- Dayan, P., Kakade, S., & Montague, P. R. (2000). Learning and selective attention. *Nature neuroscience*, 3 Suppl, 1218–1223.

- Deutsch, J. A., & Deutsch, D. (1963). Attention: Some Theoretical Considerations. *Psychological Review*, 70, 80–90.
- Dzulkifli, N., Kusmiati, M., & Santosa, D. (2021). Scoping Review: Pengaruh Mendengarkan Musik Klasik terhadap Kemampuan Konsentrasi Mahasiswa. *Prosiding Pendidikan Kedokteran*, 7(1), 15-20.
- European Broadcasting Union. (2014). *Recommendation R128: Loudness normalisation and permitted maximum level of audio signals*.
- European Broadcasting Union. (2023). *Recommendation R160: Audio metering and loudness range for distribution of full range content to streaming platforms*.
- Fernandez, N. B., Trost, W. J., & Vuilleumier, P. (2020). Brain networks mediating the influence of background music on selective attention. *Social Cognitive and Affective Neuroscience*, 14(12), 1441–1452.
- Goltz, F., & Sadakata, M. (2021). Do you listen to music while studying? A portrait of how people use music to optimize their cognitive performance. *Acta Psychologica*, 220, 103449.
- Grossberg, S. (2005). Linking attention to learning, expectation, competition, and consciousness. In L. Itti, G. Rees, & J. K. Tsotsos (Eds.), *Neurobiology of attention*. Elsevier Academic Press.
- Gutschalk, A., Micheyl, C., Oxenham, A. J. (2008). Neural correlates of auditory perceptual awareness under informational masking. *PloS Biology*, 6, e138.
- Hancock Institute of Jazz. (n.d.). *Jazz in America: Lesson plan — Grade 8, lesson 6: BeBop, Cool Jazz, and Hard Bop*. <https://www.jazzinamerica.org/lessonplan/8/6/209>
- Hillyard, S. A., Hink, R. F., Schwent, V. L., & Picton, T. W. (1973). Electrical signs of selective attention in the human brain. *Science*, 182, 177–180.
- Johnston, W. A., & Heinz, S. P. (1978). Flexibility and capacity demands of attention. *Journal of Experimental Psychology: General*, 107(4), 420-435.
- Kahneman D. (1973). *Attention and Effort*. Englewood Cliffs, NJ: Prentice-Hall.
- Kamiński, J., Brzezicka, A., Gola, M., & Wróbel, A. (2012). Beta band oscillations engagement in human alertness process. *International Journal of Psychophysiology*, 85(1), 125–128.
- Khoirot, U., Yusuf, H. M., Aisyah, I., Alfikri, S. B. (2024). The influence of instrumental music on the learning attention of final year psychology students at UIN Malang Pengaruh musik instrumental terhadap perhatian belajar mahasiswa psikologi tingkat akhir di UIN Malang. *Jurnal Psikologi Tabularasa*, 19(1), 36–45.
- Kirk, U., Ngnoumen, C., Clausel, A., & Purvis, C. K. (2022). Effects of Three Genres of Focus Music on Heart Rate Variability and Sustained Attention. *Journal of Cognitive Enhancement*, 6(2), 143–158.
- Koudelková, Z., & Strmiska, M. (2018). Introduction to the identification of brain waves based on their frequency. *MATEC Web of Conferences*, 210, 1–4.

- Lachter, J., Forster, K. I., & Ruthruff, E. (2004). Forty-five years after Broadbent (1958): Still no identification without attention. *Psychological Review*, 111(4), 880–913.
- Langiulli, N. (2023). *The perception of audio spatialization during cinematic immersion: An HD-EEG study on the sense of presence* (Doctoral dissertation, Università degli Studi di Parma).
- Lee, H.-J. (2020). A Study on Jazz Vocal Variation Techniques -Focusing on Jazz Ballad Style Techniques-. *Asia-Pacific Journal of Convergent Research Interchange*, 6(9), 141–150.
- Mesulam, M. M. (1981). A cortical network for directed attention and unilateral neglect. *Annals of Neurology*, 10, 309–325.
- Moruzzi, G., & Magoun, H. W. (1949). Brainstem reticular formation and activation of the EEG. *Electroencephalography and Clinical Neurophysiology*, 1, 455–473.
- Muslimah, M., & Apriani, W. (2020). The Effect of Listening to Music on Concentration and Academic Performance of the Students: Cross-Selectional on English Education College Students. *Journal of English Teaching, Applied Linguistics and Literatures (JETALL)*, 3(1).
- NeuroSky, Inc. (2009). *NeuroSky's eSense™ meters and detection of mental state*. <https://frontiernerds.com/files/neurosky-e-sense-white-paper.pdf>
- Nadon, É., Tillmann, B., Saj, A., & Gosselin, N. (2021). The Emotional Effect of Background Music on Selective Attention of Adults. *Frontiers in Psychology*, 12(October), 1–9.
- Oktaviani, N., Suhardi, B., & Astuti, R. D. (2024). Effect of Genre Music on Concentration. *Asian. Jour. Social. Scie. Mgmt. Tech*, 5(6), 147–152.
- Olam, Y. B., Setiaji, F. D., & Susilo, D. (2014, October 1). *Implementasi Headset NeuroSky MindWave Mobile untuk Mengendalikan Robot Beroda secara Nirkabel*.
- Öztürk, B. (1999). Öğrenme ve öğretmede dikkat. *Milli Eğitim Dergisi*, 144, 51–58.
- Petersen, S. E., & Posner, M. I. (2012). The attention system of the human brain: 20 years after. *Annual Review of Neuroscience*, 35, 73–89.
- Porter, E. (1999). "Dizzy Atmosphere": The Challenge of Bebop. *American Music*, 17(4), 422–446.
- Posner, M. I., & Boies, S. J. (1971). Components of attention. *Psychological Review*, 78, 391–408.
- Posner, M. I. (1978). *Chronometric explorations of mind*. Erlbaum.
- Posner, M. I. (1980). Orienting of attention. *Quarterly Journal of Experimental Psychology*, 2, 3–25.
- Posner, M. I. (1988). Structures and functions of selective attention. In T. Boll & B. Bryant (Eds.), *Master lectures in clinical neuropsychology* (pp. 173–202). American Psychological Association.
- Posner, M. I., & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience*, 13(1), 25–42.

- Pramono, H., Gunadi, J. W., Adhika, O. A., Limyati, Y., Gisela, H., & Dewi, V. C. (2019). The Effect of Classical and Jazz Background-Music on Concentration and Reading Comprehension in Young Adult Women. *Journal of Medicine and Health*, 2(4).
- Rayi, A., & Murr, N. I. (2022). Electroencephalogram. In *StatPearls*. StatPearls Publishing.
- Richards, J. E. (2005). Attention. *The Cambridge encyclopedia of child development* (pp. 282–286). Cambridge University Press.
- Rizzolatti, G., Gentilucci, M., & Matelli, M. (1985). Selective spatial attention: One center, one circuit or many circuits. In M. I. Posner & O. S. M. Marin (Eds.), *Attention and performance XI* (pp. 251–255). Erlbaum.
- Ronan, M., Ward, N., & Sazdov, R. (2016). *Considerations when calibrating program material stimuli using LUFS* (Paper 245). University of Limerick.
- Scarpina, F., & Tagini, S. (2017). The stroop color and word test. In *Frontiers in Psychology* (Vol. 8, Issue APR). Frontiers Research Foundation.
- Sari, P., & Maula Khairani, H. (2023). *Peran Musik dalam Meningkatkan Konsentrasi*.
- Sezer, A., İnel, Y., Seçkin, A. Ç., & Uluçınar, U. (2015). An investigation of university students' attention levels in real classroom settings with Neurosky's MindWave mobile (EEG) device 2. *Turkish Online Journal of Educational Technology*, 2015, 61–69.
- Silaen, A. E., Ramadhanti, N., & Utami, S. T. (2023). Musik Berpengaruh Dalam Konsentrasi Belajar. *Parade Riset Mahasiswa* 2023, 1(1), 467–480.
- Sparshadeep, E. M., Ansuja, S., Kavana, G. V., & Oommen, A. A. (2021). Effect of Stroop color word interference on selective attention task among healthy young adults. *National Journal of Physiology, Pharmacy and Pharmacology*, 11(10), 1203-1203.
- Stevens, C., & Bavelier, D. (2012). The role of selective attention on academic foundations: a cognitive neuroscience perspective. *Developmental cognitive neuroscience*, 2 Suppl 1(Suppl 1), S30–S48.
- Stoet, G. (2010). PsyToolkit: A software package for programming psychological experiments using Linux. *Behavior Research Methods*, 42(4), 1096–1104.
- Stoet, G. (2017). PsyToolkit: A Novel Web-Based Method for Running Online Questionnaires and Reaction-Time Experiments. *Teaching of Psychology*, 44(1), 24–31.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: CV. Alfabeta.
- Tang, Y. Y., Tang, R., Rothbart, M. K., & Posner, M. I. (2019). Frontal theta activity and white matter plasticity following mindfulness meditation. *Current opinion in psychology*, 28, 294–297.
- Thompson, W. F., Schellenberg, E. G., & Letnic, A. K. (2012). Fast and loud background music disrupts reading comprehension. *Psychology of Music*, 40(6), 700–708.

- Treisman, A. (1964). Monitoring and storage of irrelevant messages in selective attention. *Journal of Verbal Learning and Verbal Behavior*, 3(6), 449–459.
- Van Der Stigchel, S. (2020). *Concentration: Staying Focused in Times of Distraction*. MIT Press.
- What is eSense?. NeuroSky - Home Page Support.* (2011, February 3). Retrieved June 15, 2025, from <http://support.neurosky.com/kb/science/what-is-eSense>
- Zimmerman, P., & Leclercq, M. (2002). Neuropsychological aspects of attentional functions and disturbances. In M. Leclercq & P. Zimmerman (Eds.), *Applied neuropsychology of attention* (pp. 56–85). Psychology Press.

