



# The Warm Embrace of an Aural Cocoon: How LoFi Music Affects the Distractibility of College

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## Abstract

*This study aims to examine the impact that Low Fidelity (LoFi) music has on the distractibility of students. College students are no longer restricted to only completing their assignments in school buildings or at home. Instead, they now complete their assignments in coffee shops, outdoor parks, student hubs, and other locations. Each place has an aesthetic that affects the students' ability to focus on their assignments, such as talking and jingling keys. Additionally, students are often distracted by the challenges of virtual learning, whether it is issues with the technology itself or the notifications that pop up when learning. These constant distractions fight for the students' attention which often negatively impacts them and their academic performance.*

*LoFi music creates an aural cocoon around the listener which acts as a buffer and allows the student to concentrate longer by increasing the time it takes to become distracted. LoFi is a newer genre of music that consists of sampled audios which lack lyrics and are then compiled together overtop simple beat patterns. Through an experimental design in which students complete a test while listening to LoFi and being purposefully distracted, this study aims to determine the extent to which LoFi aids students' concentration when studying. The findings from this study will allow educators to equip students with the resources to study efficiently while still maintaining the integrity of the educational system.*

A consistent recommendation for students from educators and peers was to listen to music while studying. Overtime, this has been proven to increase memory retention and decrease stress (Simmons-Stern, Budson, & Ally, 2010; Hirokawa 2004; Fellows, Brian J., and Diana Jones, 1994; Stoudenmire, 1975; Ferreri and Verga, 2016). Generally, this music is in the form of classical (approx. 1580 – 1875) or some variation of smooth

jazz. Low Fidelity (LoFi) is a newer genre of music that consists of sampled audios which lack lyrics and are then compiled together overtop simple beat patterns. This music is extremely popular with college students, with the listeners significantly increasing by almost double over the course of the COVID-19 pandemic (Alexander, 2020). LoFi music can be described as having 3 unique characteristics; it is nostalgic, imperfect and creates an aural

cocoon. Through an experimental design, I aimed to see to what extent, if any, LoFi's characteristics affected a student's ability to be distracted.

### **Design**

Students volunteered through Microsoft Forms to participate in the study. After a little over a week, 30 students had signed up to volunteer. The students were randomly placed into 3 groups. These groups designated what day (Friday, Saturday, or Sunday) they would be testing, and if they would be completing the test with the LoFi backing track played over the distractions (such as keys clicking, phones ringing, lawn mowers and people sneezing). The test was a modified GED test. It was chosen because all students were enrolled in Millersville University of Pennsylvania and the test is often given for students who wish to get a high school diploma without going through high school. Therefore, all students should have been able to complete it with relative ease. On the day of the test, students completed an informed consent sheet and a demographic sheet. LoFi music or silence was played for 15 seconds before the distractions began and students could begin the test. After the students completed the test, the time that it took them to complete the test was recorded. A questionnaire was then provided to the students. Once completed, the students were able to leave the room.

### **Findings**

The groups were roughly equal, with 8 students total being in the LoFi groups and 9 students being in the silence group, for a combined total of 17 participants. All students were undergraduates, 15 of which were in their first two years and the other two were in their 3<sup>rd</sup> year and 6<sup>th</sup> year of university. The participants' ages ranged from 18 to 23. 8 students were male, 9

students female and 16 of the students were of white/Caucasian ethnicity. At the completion of the test, participants were asked to complete a questionnaire ranking how the music/lack thereof made them feel on a scale of 1, not at all, to 10, extremely. Emotions such as "relaxed", "distracted", and "focused" were on this questionnaire. Of the 10 emotions listed, 9 of them showed improvement when comparing the averages of the no music and music groups. Notably, the music (see Table 1) was reported to make students more relaxed (increase of 2.1250%), thoughtful (increase of 2.1905%), focused (increase of 1.5417%) and distracted (decrease of 0.1389%). Additionally, each section of the test, as well as the overall total percentage, was increased for the music groups (see Table 2).

### **Discussion**

In conclusion, from the data that I've analyzed LoFi music does appear to have a positive impact on students and decrease the distractibility of students. Additionally, from the data that was analyzed, the LoFi appears to positively influence the emotions of the listener. Combined with the aural cocoon and the way that the LoFi influences emotions, students tend to perform better when listening to LoFi music than when listening to nothing. This is great for students and educators because it allows them to know how to better prepare for their tests and study sessions. If educators can enable their students to perform 10% better on their tests, it is likely that many would be willing to take advantage of this. While my sample size was relatively small, future research should investigate with a larger sample size. Additionally, future researchers might want to investigate further subsets of LoFi, such as commonalities in its creation. Is LoFi that has a hiss to it, or disk scratches for example better for students to study with? This information will allow students

and educators to potentially perform even better on their assignments. For future researchers, it's important to note that a statistical analysis was not done with this data. Given the small sample size, there is a chance that the result of the test was due to chance. Therefore, a larger sample size should be taken with a broader range of educational backgrounds, interests, and ages. Furthermore, more varied distractions should be used as well. Finally, LoFi is a broad genre with lots of sub-genres. Exploration into the subgenres and how they specifically interact with students' ability to be distracted would be a great way to optimize a student's time to get the best results from their study session.

### Appendix

Table 1

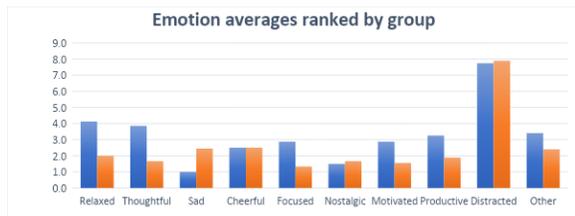
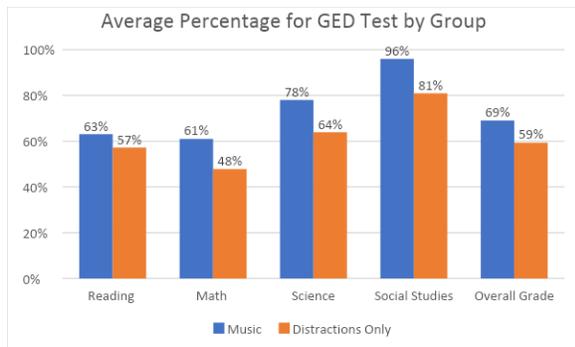


Table 2



## References

- Alexander, J. (2020, April 20). *Lo-fi beats to quarantine to are booming on YouTube*. The Verge. <https://www.theverge.com/2020/4/20/21222294/lofi-chillhop-youtube-productivity-community-views-subscribers>
- Casumbal, K. J., So, M., Ng, A., Guzman, F., Fernandez, N., & Chan, C. (2019). *The effects of low-fidelity music and font style on recall*. <https://doi.org/10.13140/RG.2.2.31182.41286>
- Cournoyer Lemaire, E. (2019). The effect of background music on episodic memory. *Psychomusicology: Music, Mind, and Brain*, 29(1). <https://doi.org/10.1037/pmu0000234>
- Fellows, Brian J., and Diana Jones. "Popular Methods of Relaxation: A Survey with Implications for Therapy." *Contemporary Hypnosis*, vol. 11, no. 3, 1994, pp. 99–107. EBSCOhost, [search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=psyh&AN=1995-22352-001&site=ehost-live&scope=site](https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=psyh&AN=1995-22352-001&site=ehost-live&scope=site).
- Ferreri, L., & Verga, L. (2016). How and When Does It Work? *Music Perception: An Interdisciplinary Journal*, 34(2), 167–182. JSTOR. <https://www.jstor.org/stable/26417442>
- Florida National University. (2018, November 26). *The Benefits of Studying with Music*. Florida National University. <https://www.fnu.edu/benefits-studying-music/>
- Hirokawa, E. (2004). Effects of Music Listening and Relaxation Instructions on Arousal Changes and the Working Memory Task in Older Adults. *Journal of Music Therapy*, 41(2), 107–127. <https://doi.org/10.1093/jmt/41.2.107>
- Huang, X. (2016, November 7). *Feelings of Nostalgia Can Make Us More Patient*. Harvard Business Review. <https://hbr.org/2016/11/feelings-of-nostalgia-can-make-us-more-patient>
- Newton, E. (2016). Lo-fi Listening as Active Reception. *Leonardo Music Journal*, 26(26), 53–55. [https://doi.org/10.1162/lmj\\_a\\_00975](https://doi.org/10.1162/lmj_a_00975)
- Saavedra, E. (2015). *How does music benefit your classroom or school community the MOST?* | *Safe Supportive Learning* (H. Alexander, Ed.). National Center on Safe Supportive Learning Environments. <https://safesupportivelearning.ed.gov/voices-field/how-does-music-benefit-your-classroom-or-school-community-most>

- Simmons-Stern, N. R., Budson, A. E., & Ally, B. A. (2010). Music as a memory enhancer in patients with Alzheimer's disease. *Neuropsychologia*, *48*(10), 3164–3167.  
<https://doi.org/10.1016/j.neuropsychologia.2010.04.033>
- Stoudenmire, J. (1975). A comparison of muscle relaxation training and music in the reduction of state and trait anxiety. *Journal of Clinical Psychology*, *31*(3), 490–492.  
[https://doi.org/10.1002/1097-4679\(197507\)31:3<490::aid-jclp2270310328>3.0.co;2-e](https://doi.org/10.1002/1097-4679(197507)31:3<490::aid-jclp2270310328>3.0.co;2-e)
- Tze, P., & Chou, M. (2010). Attention drainage effect: How background music effects concentration in Taiwanese college students. *Journal of the Scholarship of Teaching and Learning*, *10*(1), 36–46. <https://files.eric.ed.gov/fulltext/EJ882124.pdf>
- Vallee, M. (2014). Lo-fi. *Oxford Music Online*.  
<https://doi.org/10.1093/gmo/9781561592630.article.a2267083>
- Wallace, W. T. (1994). Memory for music: Effect of melody on recall of text. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*(6), 1471–1485. APA PsycNet. <https://doi.org/10.1037/0278-7393.20.6.1471>
- Winston, E., & Saywood, L. (2019). Beats to Relax/Study To: Contradiction and Paradox in Lofi Hip Hop. *IASPM Journal*, *9*(2), 40–54.  
[https://iaspmjournal.net/index.php/IASPM\\_Journal/article/view/949](https://iaspmjournal.net/index.php/IASPM_Journal/article/view/949)