Different music genre interventions and anxiety among high schoolers

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Introduction

There is increasing concern among high school students in the United States regarding the effects of test anxiety on their academic performance (Wuthrich et al., 2020). *Anxiety* is a psychological condition in which one feels nervous, frightened, and full of tension that is uncontrollable and unpleasant (Tobias, 1979). Approximately 25-40% of high school students in the United States are reported to suffer from test anxiety (Hanfesa et al., 2020). These concerns have been a major focus of concern in the past few years by psychological researchers (Eum & Rice, 2011). This is relevant when talking about how high school students are constantly listening to music at around 2.45 hours a day through a variety of devices so music can be a means of stress relief for students(North et al., 2010). High schoolers are also more prone to stress and perceive themselves to be at unhealthy levels of stress due to family pressure and having to balance extracurriculars with their academics (Anderson et al., 2014; Kouzma, Kennedy, 2002).

High levels of academic pressure may lead to stress which, in turn, has an effect on academic performance among students, with studies stating that students with lower levels of academic stress have higher test scores on average (Reteguiz, 2006). Findings in a study on high school students and high stakes tests show that student stress is not only personal and individually caused but is also due to school environment and academic factors (Banks & Smyth, 2015). This problem has been caused due to increasing difficulty of college acceptances, and overall difficulty of academics due to the advancement of technology. For example, acceptance rates at elite colleges plummeting much further than they have in years causes much uncertainty (Selingo, 2020). *Academic stress* has been defined as stress or anxiety that is caused by psychological pressure from academics in a school environment (Krishan, 2014).

Academic stress has been combated through counseling and talk therapies with students, which include encouraging positive self-talk and building confidence as well as improving test taking strategies (Quinn & Peters, 2020). Another treatment intervention that has been well researched is music therapy. *Music therapy* is the clinical use of music to achieve goals such as reducing stress as well as improving the emotional and physical health of a person (Bonny, 1986; Trondalen et al., 2012). Previous studies have illustrated that listening to music at least 10 minutes before an exam can reduce stress, anxiety, and its symptoms (Haynes, 2004; Sezer, 2009). In order to compare the effects of different genres of music on anxiety and academic stress levels among high school students, this literature review will compare four musical genres in the form of classical, pop, as well as rock and grunge music.

Purpose of Literature Review

The aim of this review is to understand how the four different genres of music affect stress hormone levels, better test performances, improved mood and whether they are effective in lowering academic stress levels in high schoolers. Kemper and Danhauer (2005) found in their study conducted on high school students, that classical music can decrease stress levels in academic situations.The researchers had students listen to each different genre of music before taking a test and checking stress hormone levels after the test was over in order to compare it with a group that listened to no music at all. Classical music has shown to be beneficial in aiding stress through research in which results show that after listening to grunge and rock music, classical music helped stimulate relaxation and decrease stress levels in the brain (Kemper & Danhauer, 2005). Pop music has also shown to aid in decreasing cortisol levels. Cortisol is the

hormone that results in stress. Listening to pop music after experiencing certain levels of stress decreased production of the factor of cortisol in the study (Thoma et al., 2013).

Though there is a correlation between music and decreased anxiety among individuals, there remains a lack of research around the impact of different music genres on high school students' stress levels. For example, listening to new age and design music after listening to grunge rock was shown to stimulate relaxation and decreased tension in one study (Kemper & Danhauer, 2005); however, most studies were small in sample size and included only one or two music interventions. New age and design music can be defined as vocal/instrumental music that is seen as calming (Midbar, 2012).

This paper aimed to discover the impact of different music therapy interventions to help high school students reduce stress levels caused by academic pressures. To that end, how can listening to different music decrease anxiety and academic stress levels among high school students in the United States?

Effects of Classical Music on Academic Stress

Mozart's bpm and rhythms effects on stress and anxiety

Classical music has been known to provide a sense of calmness and has been researched to see if it affects stress levels in students (Theorell et al., 2019). In a study conducted on high school and university students, Yuspitasari et al. (2020) found that listening to Mozart, a composer of classical music, showed significant differences in test anxiety in those participating. Students who had reported having high levels of anxiety before tests received an intervention, and resulting anxiety scores were compared with a control group; the anxiety scores went from being 12.55 in the high category to being 7.852 in the medium category (2020). The state and trait anxiety scale they used was based on generalized anxiety scores in high, medium and low categories along with the average ratio of anxiety before the test and after taking the test. However, the publication journal did not state which specific questionnaire that they used which may cause conflict with other results in various scales. However, there may have been a more drastic outcome in decreased anxiety levels because all student-participants reported having a higher anxiety score at the start of the study. Their score is indicated as being higher than the average anxiety and stress level in their age group which can be seen as unhealthy. This is reported through the average anxiety scores on the test being higher than the ratio of students. Though using one specific composer of music shows a certain effect of certain beats per minute, certain speeds may cause different effects on anxiety and stress in students. Classical music is written in a wide variety of speeds and rhythms and each composer has a different average bpm that they use. For example Mozart uses an average bpm of 116 which is in the middle range of classical music proven to be effective (Rossi et al., 2018).

In another study conducted by Goldenberg et al. (2013), the researchers used Mozart music as an intervention and controlled for factors like prior test performance, stress factors, age and regular music preference. The researchers randomly assigned students to two groups: a Mozart intervention group and a control group (a silent room). The participants in the Mozart group reported less anxiety compared to the control group. Although it seemed as if test anxiety and stress levels were decreased, results could have been tested in larger groups and varied sample sizes. (Goldenberg et al., 2013) also found that listening to music from a specific genre that students preferred had more significant results. The researchers theorized that having prior exposure to the genre being used in the therapy would have more effective results. So if they listened to classical music more often and more regularly as a genre of music before participating in the experiment, this may cause the results to be skewed.

Classical Music's effects on test anxiety and stress in varying durations of time and type

Classical music is theorized to have great effect in lowering test anxiety and stress prior to exams when listening for specific durations of time (Campbell, 2002). In a study on whether listening to classical music before an exam can impact test anxiety and psychological well being done on university students, the researcher's theory was seemingly proven. In the experiment the researchers had the students listen to classical music every day in a 60-day period and then administered the State-trait anxiety scale and the Psychological Well-Being scale. There were statistically significant differences in the areas of psychological well-being and lower trait anxiety scores. However there were no differences in autonomy scores and effects on state anxiety. *State anxiety* is an anxiety that occurs in a threatening temporary situation like a test for example. It can be deduced that classical music in lesser amounts of time has a lesser effect on test anxiety versus academic stress (Osmanoglu & Yilmaz, 2019).

Multiple studies have profound connections between time durations of classical music, varying types of classical music and the effectiveness of the intervention. For example, in a study done on middle school students in America where researchers played background classical music during study to determine whether test anxiety levels would decrease, results were found to be indeterminate (Falcon, 2017). However some breakthroughs in terms of varying types of classical music have been made in various other studies. For instance, a study to determine how various types of classical music can affect nervous well being in times of academic stress found that musical interventions were very beneficial to college students. The researchers found that soothing classical music at slower, more relaxing tempos is able to promote mental health and decrease anxiety while faster paced classical music has no major effect on anxiety and stress but can possibly harm mental well being if listened to in longer duration. Some musical therapists believe that slower paced music is more beneficial to decrease anxiety (Van Hoom et al., 1989). To determine improvement in psychological well being and mental health, researchers used the PANAS scale and found an overall decrease in stress and anxiety (Chi, 2020).

The research would be more beneficial if studies focused on having repeated exposures to the music and give a more accurate result on whether certain genres of music have completely different effects on stress levels in students. For example, a study that focused more on different genres and each of its specific effects stated that listening to classical music had a more positive effect on the stress hormone cortisol and its decrease than other genres of music. This research addressed that different genres of music had a more non-identical effect on stress but genres used in this study may also be outdated when explored today (Kemper & Danhauer, 2005). Research has shown through the lack of album sales, and youth consumption that rock and grunge music has been on the decline, so the "negative" effect of the music may not be as applicable today than in the past (Toynbee, 2016). So when compared with classical music, results may be different due to music preferences of high school students changing to focus on different genres like rap, trap and EDM for example.

Given these points, classical music may be seen as a helpful tool to alleviate academic stress in high school students. It is shown to have positive effects on the stress hormone which can control academic pressure while also providing a possible calming feeling with its tempo. These results would benefit from larger groups of studies being done in the present with tastes in music and preferences for melodies changing.

Effects of Pop Music on Academic Stress

Effects of pop music on mood

Pop music is known to be a genre of music that can be very uplifting, which can be seen as a way to reduce stress and depression in high school students (Huang & Duell, 2020). In a study describing how pop music affects different generations of people including teenagers and high school students, it was found that students use pop and hip hop music the most often when alleviating stress. The research concluded that when studying or working, those who listened to faster paced music like pop felt a sense of relatability and shared that they felt less stressed when taking the survey. The research states that 87% of the participants in the survey were reported to listen to music at higher duration when stressed, which can stimulate lesser cortisol levels, and in turn decreases stress levels in students. This connects to a study that also references a stimulation of lower cortisol levels when faced with listening to higher durations of music and opens a reward pathway in the brain which in turn increases nervous system recovery and serotonin levels (Malakoutikkah et al., 2020). Through the increase in nervous system recovery it can be deducted that stress levels went down and recovered (Pereira et al., 2017).

Another study on 16 to 18 year old high school students with anxiety and depressive symptoms tested whether pop music could help reduce stress in the students when listening before an exam or project (Huang & Duell, 2020).The researchers found that when listening to pop music continuously for a week before taking the exam, students had an increased positive mood and a decrease in their anxiety and depressive symptoms. The researchers measured anxiety levels through the Hospital Anxiety and Depression scale. The students reported adjectives on how they were feeling about the exam and their day to the researchers, and towards the end of the experiment they reported more positive adjectives like “confident” and “happy”. A possible limitation could be that students with more extreme levels of anxiety and depressive symptoms would have more profound adjectives on how they felt when listening to music. Having varying levels of prior anxiety and depression could affect the statistics relating to the actual effect of music therapy (Huang & Duell, 2020). This research can be beneficial to delving deeper into how pop music specifically affects academic stress and mood in students.

Pop music’s rhythm’s effects on anxiety

A study done on college students with excessive anxiety included a group of students having therapy using conventional talking therapy and a second group of students using musical interventions (Liu & Li, 2023). The study used a range of rhythms, ballads, and melodies including popular music. The anxiety was tested using the Likert 4-point method, and then levels of anxiety decrease were measured using Zung’s self rating anxiety scale. A score of less than 40 would indicate lower levels of anxiety. After treatment with musical interventions as compared with conventional therapy, anxiety levels were lower at levels of 26 to 44. To compare for conventional therapy, the levels of anxiety were at 45 to 64 which is much higher than anxiety levels after music therapy (Liu & Li, 2023). The study references that rhythms and differing melodies had various effects on anxiety levels in college students. In another study regarding the beneficial connection between the vibrations of rhythm with the body and anxiety levels, the researchers found that faster rhythms and specific melodies can restore potential in the nervous system and decrease anxiety (Santos et al., 2019).

Both studies reference several kinds of rhythms and melodies found in pop music and describe how they can decrease anxiety levels in the body. A strength of the studies is comparing conventional therapy with musical interventions in order to see if there is a substantial statistical difference in effect between both therapies. Finding a statistically significant difference would be beneficial in determining if musical therapy using different genres

and melodies is truly effective in decreasing stress and anxiety. Both studies are important in order to determine what genre of music has rhythms and beats per minute that have the most sizable effect on decreasing anxiety and stress levels.

Several studies support the finding that pop music has a profound effect on decreasing stress and anxiety levels among high school students (Liu & Li, 2023; Huang & Duell, 2020) and has extensive effects on academic performance and mood (Huang & Duell, 2020; Meyers et al., 2022). A study comprising different popular music recorded its impact on teenagers with higher anxiety levels in a hospital. The study found that listening to recorded music chosen by the patient decreased arousal due to stress and lower levels on each scale. The results were analyzed using the Visual Analog scale and studied across multiple weeks (Scheufler et al., 2021). This study can be compared with Malakoutikkah et al. (2020) where the rhythms and beats of the music decreased participants' cortisol levels which, in turn, decreased the anxiety levels. This is similar to listening to recorded music that was also self selected. There is evidence to suggest that aspects of popular music like beats per minute, rhythms and melodies can affect stress levels and decrease anxiety levels in teenagers and students. However, one possible limitation is insufficient research comparing larger ranges of beats per minute and its effects on stress levels.

Effects of Grunge and Rock Music on Academic Stress

Grunge and rock music's effects negatively on anxiety and stress levels

Grunge and rock music are heavy and intense forms of music, which can correlate with higher levels of stress and anxiety that are not beneficial to students (Kemper & Danhauer, 2005). Grunge and rock music are often categorized together due to their similarities in instruments, like drums and guitars, along with similar writing themes like depression and differences with society (Conory, 2017). Sigg (2009) performed a study performed on teenagers, testing the correlation between most listened to music genres and their effect on emotional well being and personality. Subjects who listened to more intense and high octane music like rock, grunge and alternative music had higher levels of anxiety and more negative signs of emotional well being. The subjects took multiple scales, but most notably the depression, anxiety and stress scale to determine how their anxiety levels stood when connecting what music they listened to. Some strengths of the research include defining the criteria for determining what qualifies as intense, high octane music,For example, describing the beats per minute or intense sounds and instruments that made the music part of each group (Sigg, 2009).

Multiple studies reference the increase in anxiety and stress levels or negative impact on the emotional state that rock and grunge music can have on teenagers (Kemper & Danhauer, 2009; McCraty et al., 1998; Sigg, 2009). For example, Lilley et al. (2014) found that listening to rock and grunge music for longer portions of time before a test can increase academic stress and decrease levels of test performances. Compared to Kemper and Danhauer (2009), McCraty et al. (1998), and Sigg (2009), one limitation to this study is how it fails to describe what makes rock and grunge music so "intense." So different songs may have differing levels of rhythms and BPM that make them so intense, which can cause the effect on anxiety levels to be unclear. The scale used to determine anxiety levels were the Hamilton scale and the State trait anxiety scale, which have been used in other studies (Lilley et al., 2014).

Rock and grunge music's negative impacts on anxious behavior and tests

Rock and grunge music are not only seen as heavy and intense but also impactful on emotional well-being before exams if listened to in large durations of time (Ogel et al., 2007). A study conducted in order to determine the effects of different music styles on aggression levels

in adolescents found that those who listened to heavy metal and rock music more frequently in large proportions as compared to other genres were more likely to show anxious behaviors (Guner, 1998). Multiple studies have mentioned the negative impact that rock and grunge music can have on emotional behavior and stress during exams and studying (Lilley et al., 2014; Mulligan, 2009). Mulligan (2009) found that students who listened to rock music frequently had a negative connection with conscientiousness and a sense of responsibility and diligent work. *Conscientiousness* is a personality trait of being diligent and thorough (Mulligan, 2009). Students with lesser affinity for conscientiousness tend to have increasing difficulty with academics, leading to higher levels of test anxiety and academic stress (Barrows et al., 2013; Carroll & Iles, 2006).

Miranda (2012) performed a study in order to determine the effects of different music genres and everyday listening on emotional regulation and coping through lyrics and intensity. Miranda (2012) focused on “problem music” such as hard rock, punk, heavy metal and grunge music. It was found that listening to rock and grunge music can affect the mind in negative ways and negatively correlate with emotional regulation in the human brain. Weaker emotional regulation was found to be especially strong in adolescents and young adults, the main subjects of high school and college academic stress studies (Miranda, 2012). Negative emotions and reactions in stressful situations, for example, can also be associated with rock and grunge music when studying through anxious behaviors (Osmanoglu & Yilmaz, 2019). However, a possible limitation with measuring rock and grunge music’s negative impacts on anxious behavior is due to rock and grunge music having a specific demographic of people (Preniqi et al., 2021). Due to relatable lyrics more modern and possibly rebellious people listening more often to rock, grunge and heavy metal music it is more likely for higher levels of anxiety and negative behaviors to arise (Wass et al., 1991). This may also be a result of emotional lyrics, which can be experienced as intense and destructive (Miranda, 2012).

When listening to rock and grunge music, it is not seen as beneficial in aiding academic stress and anxiety in most cases due to its emotional intensity and heaviness (Miranda, 2012). Despite this, rock and grunge music may be seen as “problem music” or music that is not beneficial, but the genres of music are only shown to be harmful when listened to in large durations of time. Rock and grunge music should be researched further in order to determine the precise effects of the instruments and lyrical effects on the body and stress for students.

Conclusion

Music has long been known to provide benefits to its listeners through lyrics, beautiful melodies, and instrumentals (Prior et al., 2006; Wilson, 2013). The traits of classical and pop music that involve calming harmonies and exciting instrumentals are what makes the two genres the most useful when performing music therapy (Huang & Duell, 2020; Theorell et al., 2019). To make the genres as efficient as possible in lowering academic stress and anxiety, certain beats per minute and melodies can provide the best therapy for a student (Rossi et al., 2018). Pop and classical seemed to be the most effective in lowering stress and anxiety in students, attributable to their uplifting lyrics, beats and melodies. Rock and grunge music along with heavier more intense music seemed to be less effective when used as music therapy. This can be seen as a result of emotional lyrics and increased intensity.

Certain genres of music can help lower academic stress for students. On the other hand, extremely intense music in heavy durations, like rock and grunge, may be harmful. Additional research should be conducted to compare music genres in terms of the effects of their lyrics, BPM, and melodies. It may be helpful to compare each genre’s effect on students together in

order to look at the results fairly. Future research may also benefit from increased studies on sub-genres of music as generalizing pop music and rock music can be seen as broad.This is due to the fact that pop and rock music vary in emotionality and tones so generalizing each sub genre can lead to skewed results.

References

Banks, J., & Smyth, E. (2015). 'Your whole life depends on it': academic stress and high-stakes testing in Ireland. *Journal of Youth Studies*, *18*(5), 598–616. https://doi.org/10.1080/13676261.2014.992317

Barrows, J., Dunn, S., & Lloyd, C. A. (2013). Anxiety, self-efficacy, and college exam grades. *Universal Journal of Educational Research*, *1*(3), 204-208. https://doi.org/10.13189/ujer.2013.010310

Carroll, J. M., & Iles, J. E. (2006). An assessment of anxiety levels in dyslexic students in higher education. *British journal of educational psychology*, *76*(3), 651-662. http://dx.doi.org/10.1348/000709905X66233

Chi, J. (2020). Influence of classical music on the psychological state of college students under stress. *Revista Argentina de Clínica Psicológica*, *29*(1), 906. https://doi.org/10.24205/03276716.2020.124

Črnčec, R., Wilson, S. J., & Prior, M. (2006). The cognitive and academic benefits of music to children: Facts and fiction. *Educational Psychology*, *26*(4), 579-594. https://doi.org/10.1080/01443410500342542

dos Santos, E. A., Marchant Sánchez, E., Niguez Ortiz, M. Á., & Oliver Germes, A. (2019). Effects of music therapy in depression and anxiety disorder. *Life*, *2*(2), 65. https://doi.org/10.12032/life2019-0425-003

Eum, K., & Rice, K. G. (2011). Test anxiety, perfectionism, goal orientation, and academic performance. *Anxiety, Stress, & Coping*, *24*(2), 167-178. https://doi.org/10.1080/10615806.2010.488723

Falcon, E. (2017). *The relationship between background classical music and reading comprehension on seventh and eighth grade students*. St. Thomas University.

Goldenberg, M. A., Floyd, A. H., & Moyer, A. (2013). No Effect of a Brief Music Intervention on Test Anxiety and Exam Scores in College Undergraduates. *Journal of articles in Support of the Null Hypothesis*, *10*(1).

Hanfesa, S., Tilahun, T., Dessie, N., Shumet, S., & Salelew, E. (2020). Test Anxiety and Associated Factors Among First-Year Health Science Students of University of Gondar, Northwest Ethiopia: A Cross-Sectional Study. *Advances in medical education and practice*, *11*, 817–824. https://doi.org/10.2147/AMEP.S275490

Helen Lindquist Bonny, Music and Healing, *Music Therapy*, Volume 6, Issue 1, 1986, Pages 3–12, https://doi.org/10.1093/mt/6.1.3

Huang, Z., & Duell, N. (2020). A Novel Music Therapy Intervention Utilizing Pop Music to Reduce Adolescent Anxiety and Depression. *Journal of Student Research*, *9*(2).

Kouzma, N. M., & Kennedy, G. A. (2002). Homework, Stress, and Mood Disturbance in Senior High School Students. *Psychological Reports*, *91*(1), 193-198. https://doi.org/10.2466/pr0.2002.91.1.193

Lal, K. (2014). Academic stress among adolescent in relation to intelligence and demographic factors. *American International Journal of Research in Humanities, Arts and Social Sciences*, *5*(1), 123-129.

Lilley, J. L., Oberle, C. D., & Thompson Jr, J. G. (2014). Effects of music and grade consequences on test anxiety and performance. *Psychomusicology: Music, Mind, and Brain*, *24*(2), 184 https://doi.org/10.1037/pmu0000038

Liu, S., & Li, G. (2023). Analysis of the Effect of Music Therapy Interventions on College Students with Excessive Anxiety. *Occupational therapy international*, *2023*, 3351918. https://doi.org/10.1155/2023/3351918 (Retraction published Occup Ther Int. 2024 Jan 24;2024:9790378)

Meyers, K., Bhattacharjee, P., Khan, M., & Yadav, D. (2022). An empirical study on the cognitive impacts of music across different generations of individuals in mitigating stress. *AGPE THE ROYAL GONDWANA RESEARCH JOURNAL OF HISTORY, SCIENCE, ECONOMIC, POLITICAL AND SOCIAL SCIENCE*, *3*(3), 19-31.

Miranda, D., Gaudreau, P., Debrosse, R., Morizot, J., & Kirmayer, L. J. (2012). Music listening and mental health: Variations on internalizing psychopathology. *Music, health, and wellbeing*, 513-529.

Mulligan, T. P. (2009). *The relationship of music preference and music function with coping in university students* (Doctoral dissertation, Oklahoma State University).

North, A. C., Hargreaves, D. J., & O'Neill, S. A. (2000). The importance of music to adolescents. *British journal of educational psychology*, *70*(2), 255-272. https://doi.org/10.1348/000709900158083

Ögel, K., Ermağan E., Eke, C. Y., & Taner, S. (2007). Madde Deneyen ve Denemeyen Ergenlerde SosyalAktivitelere Katılım: İstanbul Örneklemi. Journal of Dependence, 8(1), 18-23.

Osmanoglu, D. E., & Yilmaz, H. (2019). The effect of classical music on anxiety and well-being of university students. *International Education Studies*, *12*(11), 18-25. https://doi.org/10.5539/ies.v12n11p18

Pereira, V. H., Campos, I., & Sousa, N. (2017). The role of autonomic nervous system in susceptibility and resilience to stress. *Current Opinion in Behavioral Sciences*, *14*, 102-107. https://doi.org/10.1016/j.cobeha.2017.01.003

Preniqi, V., Kalimeri, K., & Saitis, C. (2021, November). Modelling moral traits with music listening preferences and demographics. In *International Symposium on Computer Music Multidisciplinary Research* (pp. 183-194). Cham: Springer International Publishing

Quinn, B. L., & Peters, A. (2017). Strategies to reduce nursing student test anxiety: A literature review. *Journal of Nursing Education*, *56*(3), 145-151. https://doi.org/10.3928/01484834-20170222-05

Rossi, A., Molinaro, A., Savi, E., Micheletti, S., Galli, J., Chirico, G., & Fazzi, E. (2018). Music reduces pain perception in healthy newborns: A comparison between different music tracks and recoded heartbeat. *Early human development*, *124*, 7-10.

Ruah-Midbar, O., & Ruah-Midbar, M. (2012). The dynamics of a cultural struggle in academia: the case of new age music research. *Cultural Analysis*, *11*, 67-90.

Scheufler, A., Wallace, D. P., & Fox, E. (2021). Comparing Three Music Therapy Interventions for Anxiety and Relaxation in Youth With Amplified Pain. *Journal of music therapy*, *58*(2), 177–200. https://doi.org/10.1093/jmt/thaa021

Selingo, J. (2020). *Who gets in and why: A year inside college admissions*. Scribner.

Sigg, N. (2009). *An investigation into the relationship between music preference, personality and psychological wellbeing* (Doctoral dissertation, Auckland University of Technology)

Theorell, T., & Bojner Horwitz, E. (2019). Emotional effects of live and recorded music in various audiences and listening situations. *Medicines*, *6*(1), 16. https://doi.org/10.3390/medicines6010016

Tobias, S. (1979). Anxiety research in educational psychology. *Journal of Educational psychology*, *71*(5), 573. https://doi.org/10.1037/0022-0663.71.5.573

Toynbee, J. (2016). The Decline (and Perhaps the Fall) of Rock, Pop and Soul. In *Popular Music Matters* (pp. 209-224). Routledge.

Trondalen, G., & Bonde, L. O. (2012). Music therapy: models and interventions. *Music, health, and wellbeing*, 40-62.

Uclahealth. (2023b, August 3). *What a child's test anxiety looks like*. UCLA Health. https://www.uclahealth.org/news/signs-test-anxiety-child-teens#:~:text=Your%20student%20is%20far%20from,their%20learning%20outcomes%20later%20on.

Wass, H., Miller, M. D., & Redditt, C. A. (1991). Adolescents and destructive themes in rock music: A follow-up. *OMEGA-Journal of Death and Dying*, *23*(3), 199-206. https://doi.org/10.2190/Y3JM-XBWH-2L7H-0680

Wuthrich, V. M., Jagiello, T., & Azzi, V. (2020). Academic stress in the final years of school: A systematic literature review. *Child Psychiatry & Human Development*, *51*(6), 986-1015. https://doi.org/10.1007/s10578-020-00981-y

Yuspitasari, R., & Dalimunthe, R. Z. (2020). The effect of using music classic (Mozart) towards student anxiety before the exams. *Journal of Family Sciences*, *5*(1), 47-56.