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Metal and Music: How Does Metal Affect Anger?

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Introduction

This paper aims to review the history and implications of the metal genre on the human brain, particularly as it comes to anger. This topic is a burgeoning field of study, as presently most of the information and research regarding the effects of music on the brain is using classical music. The current state of the research on metal music mostly stems from the antiquated perception of metal music in the public, which is that it is associated with anger and violence. Since the beginnings of metal music with bands like Black Sabbath and Deep Purple, to the modern-day bands like Slipknot and Avenged Sevenfold, the genre has been associated with violence and Satanism, and has held a negative connotation among outside listeners.

Metal music is an umbrella term for the collection of subgenres that are characterized by heavy drums, distorted guitar, and often a focus on heavy, chugging, power chords (simple chords constructed by the root note as well as the fifth), as well as glamorous solos (Walser). Part of the negative connotation toward metal music stems from the early eighties, where people and media would blame music for a variety of social problems, like crime, violence, and suicide. This preconceived notion will be carefully considered in this paper and will be a consistent limitation of these studies.

Hines et al. (2014)

A good primer for this research is a study conducted by Michelle Hines and Katrina Skewes McFerran in which they interviewed ten individuals' experiences with metal music and how it affected them. The study is based on the premise of arguing against the problem with the public's view on metal music, as many the studies that have been done on anger and metal music have been purely in correlation. In the introduction of the paper, it establishes that these correlation studies are not necessarily problematic in and of themselves, but rather they are used

in problematic ways. For example, one of the previous studies on heavy metal and suicide conducted by Steven Sacks has been used to support policy changes (Hines et al. 2014). However, this study was based on a correlation of the number of subscriptions for a heavy metal magazine compared to the data for the annual Mortality Detail Files in a single State (Hines et al. 2014). This correlation does not prove anything, but it was presented in a manner that it did, setting a dangerous precedent. This initial interview-based research by Hines yielded some interesting results, providing legitimacy for more 'out there' genres to be used in therapy.

This study is not empirical but is based on a series of interviews conducted with seven men, asking questions such as "What inspired your interest in metal music initially" and "What did metal music mean to you" (Hines et al. 2014). As this is not one of the empirical papers, its results will only be discussed briefly. The study revealed a few common themes of what metal meant to participants, like engaging/validating emotions/feelings, positive energy, and learning about social issues through the music. This is an interesting finding, but one of the forefront results that is valuable to this paper is that the anger that the other correlational studies called a result of metal, was revealed to be more of the inverse relationships. Individuals experiencing anger turned to metal music to process their feelings in a positive way – something that is accepted within the music therapy community for other genres of music but is typically forgotten when considering the less 'normal' genres like heavy metal.

Empirical Studies

This next section of the paper will cover three studies attempting to understand how metal music affects people's anger response as well as other brain functions.

The first empirical study that this paper will cover is a study by Leah Sharman and Genevieve Dingle, in which they studied how people in two testing groups reacted to metal music, measuring anger responses (Sharman et al. 2015)

Sharman et al. (2015)

As mentioned previously, past research on metal on the human brain has been purely based on correlation, and this study aims to provide an empirical understanding of how metal affects our brain's anger response.

The study consisted of thirty-nine participants, each of which were recruited since they listened to extreme genres like punk, hardcore, heavy metal, screamo, and more at least 50% of the time. The average age of these participants was ~22, with each of them self-reporting normal levels of stress, depression, and anxiety, according to a formalized scoring for the Depression Anxiety Test Scales (DASS) test (Sharman et al. 2015).

Participants were randomly assigned to a test group, either control or music condition. Their heart rate was tracked throughout, with them taking three Positive and Negative Affect Schedule (PANAS) tests, which are a set of tests to determine how someone has felt during a period. The timeline of the study was as follows: Completed a PANAS test, took a 16-minute anger interview, took another PANAS test, listened to extreme music for 10 minutes (music group) or sat in silence for 10 minutes (control), then took a final PANAS test (Sharman et al. 2015).

The anger interview mentioned previously was asking the participants to describe and remember a time that they felt angry. This worked to induce anger, and the purpose of listening to the extreme music was to see if it helped process that anger.

The results of this study, extrapolating data from both the PANAS and the heart rate metrics, showed that listening to extreme music helped people process their anger and alleviate it. An important distinction emerged comparing the two groups, which is that the PANAS test results seemed to show a similar decreasing of anger and increasing of relaxation in both groups, while only in the silence group the heart rate of participants decreased. The paper posits that this alleviation of heart rate allowed the participants to "fully experience [their anger]" (Sharman et al. 2015).

A limitation of this study is that it only studies people that are already known to enjoy music. This data is not extrapolatable to the general population, but it does show that extreme music helps with anger processing for those already predisposed to it. This paper also does not consider one of the points mentioned in the interview study, which is that extreme music helps bring people together to process in a community (Hines et al. 2014). The study also did not completely standardize the environment, as individuals were using their own personal listening devices as well as choosing their own music. Lastly, the demographics of the group were heavily weighted towards the younger population, it would be interesting to see how this performance shifts over different age groups.

The next study to review in this paper is a much different one than this previous study but provides interesting insights and addresses some of the limitations mentioned.

Chundakal et al. (2021)

The design of this study differs from the one previously in all regards. It focuses on a group of sixty geriatric individuals each aged 65-70, split into two groups (Chundakal et al. 2021). The control group was tasked with listening to classical music, which they were already

comfortable with, while performing Frenkel exercises. The test group did the same thing, but by listening to metal music (Chundakal et al. 2021).

The goal of this study is not to measure anger response, but instead to measure coordination in the individuals in the study. In the context of this research paper, Chundakal's study will be reviewed as if coordination can be used as a proxy for anger. If a subject is 'angrier,' this paper will argue that they have less ability to focus on a task at hand, as some of their judgment is clouded.

An interesting note about the subjects of this study is that this set of participants are all from India. From firsthand experience, the Indian geriatric population is extremely conservative and already predisposed to not enjoy metal music, and this is identifiable in the results.

The study made participants perform a simple reaction time (SRT) test as well as a choice reaction time (CRT) test. The SRT time tests one stimulus and one choice response (e.g. click the button when you see the boar), and the CRT tests for one stimulus and multiple-choice response (e.g. see the word boar and choose the image of the boar from multiple options). After taking this test, for two weeks they would perform Frenkel exercises, which are exercises that are meant to restore coordination in the geriatric population, then listen to the music of their group. After this, they would take the CRT and SRT tests again (Chundakal et al. 2021).

Results showed that within the classical music group, there was a quicker reaction time on the SRT test, and the metal group had a slower reaction time on the SRT test. Within the CRT test, both groups had a marginally better performance (Chundakal et al. 2021).

The most important extrapolation from this study is that, while using coordination as a proxy for anger measurement, metal music does cause people that do not normally listen to it to become angrier, or less coordinated.

The limitations of this study are extremely evident. First off, anger is not proved to be linked to coordination, so it is hard to say definitively the linkage of this study. Also, the lack of a control group makes it hard to argue whether it is the music or the time that allows coordination to improve. The biased population also might cloud results.

Olsen et al. (2022)

Olsen (2022) is an in-depth study learning about how students taking a first-year psychology class are affected emotionally by music. There were, in this study, 46 participants labeled fans of extreme metal, 49 participants labeled fans of violent rap, and 50 participants labeled fans of classical music. Each of these participants filled out a survey with rating scales and four sixty-second clips of famous music from their chosen genre (Olsen et al. 2022).

The study asked participants to take a demographic questionnaire followed by questions to ascertain how they utilized music in their lives and how passionate they were about that music. The participants then were asked to listen to four of the assigned musical excerpts, and then completed thirteen emotional and aesthetic response questions in the form of Likert scales for emotions like wonder, empowerment, anger, and fear (Olsen et al. 2022).

The purpose of this study was to compare how fans of violent and nonviolent music fans respond emotionally to music. The results show that fans of extreme metal music feel positive emotions after listening to extreme metal, with the two most prominent emotions being empowerment and joy. In fact, the top emotions for all three categories of listeners were joy and

empowerment (Olsen et al. 2022). There are many additional results of this study, but to go too in depth would bury this paper with too much information.

The biggest weakness in this paper is the missed opportunity of not looking to see how fans of a genre reacted to each of the other ones. It would have been interesting to see the emotional reaction of classical music listeners and vice versa. Another weakness of the study is that it was relying on students to participate based on gaining credit, so there was incentive to participate and not be excluded.

Conclusion

There is still much research to do about how metal music and other extreme genres affect our emotion and anger processing. These studies and research provide a narrative of rapid growth in this field, growing from simple correlation studies to understanding different mechanisms that extreme music enacts on the human brain. The three empirical papers tell a story of how metal, to metal listeners, can provide a pathway to process anger and give them empowerment and joy, while affecting nonmetal listeners negatively. It reinforces the idea that music is subjective, and the same music can affect people in diverse ways. It will be interesting to see the path that the research on metal and other extreme genres on psychology takes, and the findings it will bring to light.

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