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Can You Hear Colors? The Cognitive Effects of Synesthesia on Musicians

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Abstract

Synesthesia is a neurological condition that affects the senses. It allows around four percent of the population to experience the world in seemingly incomprehensible ways. It has been found that artists, such as musicians, may be more likely to have this condition due to their innate aesthetic sensitivity, though very few studies examine how this affects their views on music or how it facilitates or impedes their artistry. By using oral history methodology, a method that allows participants to freely share their own experiences with the condition, several interviews showed many differing relationships between synesthesia and musical backgrounds. It was also discovered that while there seems to be a connection between how synesthesia affects musicians' daily lives and their understanding of music, as well as several connections between the musicians themselves, there is a different response experienced by each musician. Because their personal experiences showed a varied range of reactions, the question remains open.

Synesthesia is a neurological condition causing parts of the brain "that normally become separated and specialized during brain development" to become connected, proving cross-sensory experiences (Chagas Lima, 2019, p. 2). For example, certain types of synesthesia may cause a person to involuntarily associate the letters of the alphabet with different colors or associate different sounds with specific shapes. This condition, while it has been researched more in recent years, is not new to the 21st century, and there are hundreds of known types. In fact, the first scientific record of synesthesia was published in 1812 by George Tobias Ludwig Sachs, who experienced colors being associated with musical sounds (Chagas Lima, p. 3). It appears that synesthesia may be seen prominently in music, as musicians have heightened aesthetic sensitivity and "music is the most...ephemeral of the arts" (Galeyev, 2003, p. 130). It has been found that having synesthesia as a musician may enhance your ability to remember pitches or enhance your memory of a piece because you are able to involuntarily connect something to the sounds (Lunke, 2018, p. 1). While synesthesia is a personal experience for everyone, and no two cases are likely the same, it has been found that there are connections between different peoples'

backgrounds and experiences with the condition.

Methods

Over the course of one year, data has been collected through a series of five oral histories for musicians with synesthesia in order to determine whether this disorder has cognitive effects on a musician. These interviews included the personal experiences of: Benjamin Fritz, a current Millersville University music student, Joshua Rowley, a recent Millersville University graduate, Madeline Teitsma and Jordan Woodward, two current seniors at Lebanon Valley College, and Catherine Dicristofaro, a current an adult librarian in Maryland. One limitation of the study is that most of the narrators are close in age. However, their experiences are entirely unique to their own perception of music and the world around them. Their forms of synesthesia ranged from associating colors with different musical notes, to hearing undefined chords when lights are present, to associating words with different images. Additionally, while the students all had different associations, there were several similarities between each of their backgrounds and how they each view synesthesia.

Throughout each of the interviews, narrators expressed that they each grew up in musical homes. Benjamin Fritz mentioned that it was "church choir that made [him]realize [his] true passion for music" (B. Fritz, personal communication, November 21, 2020), while Catherine Dicristofaro grew up in a house where her father was a pianist and trumpet player, and her mother was a vocalist (C. Dicristofaro, personal communication, January 31, 2021). Each narrator also mentioned that music in the church was a big part of their life, which could be related to the type of music that is typically played in church, as well as inspired by other Baroque artists that may have also had synesthesia. Most interestingly, it was noted that each narrator seemed to connect with artists who also possess the condition. For example, Benjamin Fritz, Madeline Teitsma, and Jordan Woodward all mentioned that they enjoy the works of Eric Whitacre, a 21st century Grammy-winning composer and conductor, who is known for also having synesthesia.

Overall, the narrators seemed to have expressed that they primarily enjoy having synesthesia, though it has its downsides. While Joshua Rowley said, "It tends to make music more fun, and I feel like I can experience music a little deeper than some others," he also expressed that "hearing loud chords when lights are turned on can give [him] migraines" (J. Rowley, personal communication, November 17, 2020). Additionally, Madeline Teitsma referred to the condition as "a curse." While she can experience music through colors and enjoys being able to have the ability to see music in a different way, she mentioned that "it makes tuning timpani [large percussive drum] nearly impossible because of all the overtones. The notes have different colors, and when they happen all at once, it gets confusing" (M. Teitsma, personal communication, February 7, 2021). While there are negative aspects of the condition, every narrator did overall say they enjoy having the condition.

Conclusion

In conclusion, findings have shown that while there are positives and negatives to having the condition, synesthesia, it seems to be more beneficial to a musicians' enjoyment of music and less of a hindrance on their artistry.

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