The Effects of Musical Involvement on Academic Achievement: A Literature Review

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Introduction

Participation in music is seen throughout many aspects of life, beginning in childhood, continuing through the teenage years, and following suit throughout adulthood. One aspect that commonly gets questioned is music education and musical involvement for children and adolescents. This includes parents and school boards questioning if or why students need to be involved in music, or if arts programs even need to be included in our public education systems. Over the years, many researchers have tackled these questions, providing statistical evidence showcasing a correlation between participation in music and academic achievement.

While many researchers have concluded that there is in fact a positive correlation between involvement in music and academic achievement, no two have gone about their studies the same way. For example, in 2013 Arnaud Cabanac studied the correlation based on student enrollment choices, a major contrast to Darby Southgate's 2009 study that emphasized choices made by parents to involve their children in music. These varying methods and topics of research have led to many studies arriving upon the same conclusion but lacking a cohesive and all-encompassing support system for said conclusion. There are three main concepts that are mentioned sparingly throughout the various studies, socioeconomic status, types of music involvement, and the "Mozart Effect", all of which carry significant weight in the topic and deserve recognition within the research as a whole.

The lack of inclusion and further explanation for these subjects has led me to this literature review, in which I will explore the roles that socioeconomic status, types of music involvement, and the "Mozart Effect" play in the positive correlation between music participation and academic achievement within children and adolescents. This review aims to create a cohesive collection of information that further explains the correlation between music

participation and academic achievement by zoning in on socioeconomic status, types of music involvement, and the "Mozart Effect", which can then be used to inform a general audience, or researchers continuing to study the topic.

Socioeconomic Status

The first key aspect that many researchers discuss is socioeconomic status and its correlation to academic achievement and music participation. This discussion is broken into two parts throughout most of the studies I have reviewed. This first consists of the baseline connection between socioeconomic status and academic achievement. The consensus is that academic achievement is in fact linked to socioeconomic status. dos Santos-Luiz (2016) explicitly states this when explaining his findings of "significant correlations between performance at school socioeconomic status". Southgate (2009) takes it further by looking at the impact of socioeconomic status over time and explaining that the advantages and disadvantages that come with socioeconomic status are not just influential on "baseline achievement levels", but create an impact that follows children throughout their "schooling years".

The second part involves connecting the correlation between socioeconomic status and academic achievement to music participation. Most researchers touch on this idea that the connection between the two is not direct and is much more related to the opportunities provided by a certain socioeconomic status. Guhn (2019) states that individuals of higher socioeconomic status "are more likely to take music" but continues by explaining that the "association between music and academic achievement" is not solely based upon the experiences in certain demographics, such as higher or lower socioeconomic status. Miksza (2007) takes a much simpler route, explaining that while socioeconomic status was found to be a significant variable,

the varied results found when accounting for it provided results that categorized the connection as “negligible”. Overall, it is clear throughout this literature that socioeconomic status does affect academic achievement, but that is a baseline correlation, and its direct connection does not carry over to a correlation with music participation.

Types Of Music Involvement

Another key concept that is discussed throughout varying studies is the different types of involvement in music and the effects they have on academic achievement. Many researchers have determined that there is in fact a variance caused by differing forms of musical involvement when looking at the correlation between music participation and academic achievement. dos Santos-Luiz (2016) tackles the subject from a base level, providing a blanket statement that supports a positive correlation “in music students…with ear training...instrumental learning…and in choir or orchestra”. That discussion of instrumental learning and participation in choir is further explored by Guhn (2019) as he compared the academic achievement of those involved in instrumental music and those involved in vocal music. Through his research, he found that those who took instrumental courses received scores that were significantly higher than those who took vocal music. Miksza (2007) breaks it down one step further by explaining the relationships discovered between instrumentalists and not only academic achievement but also self-concept and retention.

Throughout these various studies, it is clear that the common consensus among researchers is that different types of involvement in music yield different results when studying the correlation between music participation and academic achievement. Furthermore, instrumental music stands out in multiple studies as the variant of music involvement that

provides the highest level of academic achievement. It is important to consider this information and its connection to the larger picture, as it provides an in-depth look at what exactly music participation breaks down into, and how that breakdown creates subsets of information that provide us with that positive correlation between participation in music and academic achievement.

The "Mozart Effect"

Another concept that several researchers mention and agree upon when discussing its involvement in the correlation between music participation and academic achievement is the "Mozart Effect". Peter Miksza (2007) defines this effect as changes occurring to the brain, specifically "spatial-temporal reasoning", after being exposed to music. This is actively discussed by Darby Southgate (2009) as she provides examples of the effect in action, positively affecting the scores of students taking exams involving abstract spatial reasoning.

Arnaud Cabanac (2013) takes it one step further, explaining his findings that the "Mozart Effect" is actually the brain working through cognitive dissonance. This suggests that music is not simply correlated with academic achievement, but physically aiding the brain through processing in academic settings. Cabanac (2013) then goes on to explain how that brief interaction with music is a small part of the much larger "musical cognitive function" that is possessed by those who are actively participating in music. Overall, this literature showcased the connection between the "Mozart Effect" and the support provided to the brain by music, scientifically strengthening that much broader correlation between participation in music and academic achievement.

Conclusion

Throughout this literature review, I have broken down three key aspects involved in the correlation between academic achievement and music participation, “The Mozart Effect”, socioeconomic status, and types of involvement in music. These aspects can be found in various pieces of literature throughout the field and topic of research. Through this discussion, one can experience a well-rounded understanding of what the common consensus is among researchers, and how that consensus is fueled by the three main concepts. This common consensus is crucial to understanding what this positive correlation looks like, and why each aspect I have discussed plays a part.

As of now, it can be difficult to discover that common consensus purely from reading the research. Many of the authors I have mentioned in this review bring large amounts of great information to the field but lack in their abilities to make direct connections to previous research, aside from lengthy lists of sources. This lack of connections creates gaps in the research, leaving out critical concepts from the overall discussion, especially the three that I covered in this review. These gaps can be incredibly problematic when it comes to furthering the research on this topic. For example, at this point in time a researcher could read through one study and conclude that music participation is positively correlated with academic achievement. However, that research could come to that conclusion and be completely unaware of the direct connection of music to brain processes through the “Mozart Effect”, or the effects that social economic status and the type of music one is involved in have on that positive correlation. This lack of awareness makes it incredibly difficult for new research to take place. If a researcher begins a new study but lacks all of the pre-existing knowledge, there is a high likelihood that the research

they produce may already exist, or even worse, yield information that doesn't account for the many factors in play.

The reason this avoidance of research gaps is so crucial, is the need for further research. As I touched on in the beginning of this review, music and arts education lives in a consistent state of scrutiny. Board members, parents, educators, county officials, and policymakers are constantly looking for some sort of proof that the arts are actually providing something to the education system. The strongest form of proof we can provide is research and real data that expresses the positive effects that music provides to the academic success and growth of children and adolescents. The research we currently have is strong, but not unshakeable, as it contains those gaps and the lack of a consensus that includes all possible concepts and connections that have been found.

Moving forward I believe that the focus on this topic needs to shift towards specific effects on the brain that occur from participation in music. Most of the research we currently have briefly touches on the neurological side of the argument but focuses much more on data determined from test scores and grades. With my investigation into this research, I have seen the common pattern of specific scientific arguments being left out, which further contributes to those gaps in the studies. In order to use this research to ignite change and support the importance of music, this shift needs to occur, as it will not only spark an interest in scientists and researchers, but also provide the general public with strong, well-crafted scientific information that is understandable and useful in real-world discussions involving music and its role in academia.

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