**Do Children Who Participate in Music have Improved Cognitive Function?**

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**Abstract**

 This study was chosen to find whether or not children who participate in music have improved cognitive function. A hypothesis was made that children who participate in music do in fact have higher cognitive function, and that music is extremely valuable to child development as a whole. Three peer reviewed articles were compiled in order to investigate music’s impact on child development. It was found that music has short term and long term positive effects on the brain that depend on varying levels of engagement. The findings also led to the idea of society’s mindset on using music to enhance performance in other courses. While it is proven music does have a positive impact on the brain, it should not be used to become better in other academic areas. Children who participate in music have improved cognitive function, so music education should be taught and respected as highly as other academic areas.

I can easily say one of the best decisions I ever made was getting involved in music. I always had a love for music as a child, but I really began to engage when I was around twelve years old and I learned how to play the alto saxophone. I quickly gained a strong group of friends, and was proud I had found something I could excel in. Music came naturally to me, and the deeper I fell in love with it, the more I began to realize I wanted to be involved more. In my senior year in high school I was my marching band’s drum major, and leading the band in this way showed me teaching music was my passion. I am currently a music education major at Longwood University and it is my goal to one day become a high school band director. My career aspirations have led me to my research question, which is whether or not children who participate in music have improved cognitive function. Based on my own experience, I knew music had to have some positive impact on the development of children, but I specifically chose to focus on my research question because in the music education field I constantly hear the claim “music makes kids smarter.” As I thought more on this phrase, I couldn’t help but recognize how bold of a statement it was. People say it definitively, so I decided to base my research on it in order to prove or disprove this claim. In my research question, I refer to children who “participate” in music. Participation in music is not limited; this could mean any interaction children have. Young children are at a peak point in their lives developmentally and it is at this point when their environment has the most impact on them. Children can participate by simply listening to their favorite kind of music, or they can take on a more active involvement in learning to play an instrument or sing. Everyone interacts with music in some form throughout their life, yet it is rare that people stop and consider just how powerful of an impact it has. It is my hypothesis that children who participate in music do have improved cognitive function, and that music’s impact on child development is extremely valuable.

**Review of References**

Schellenberg was intrigued by society’s need for instant gratification, and decided to pursue the idea of whether or not music makes one smarter because people were using music as a means to do better in other areas of academics. They found that music does in fact make one smarter, but there is a certain depth to that answer in relation to the short and long term effects of listening to music versus actively participating in music lessons. Shellenberg found that listening to music aids in higher levels of achievement on different tests, but these effects were not long term and were more impacted by music’s impact on the listener’s mood. The author states that “Short-term positive benefits of music listening dissipate rapidly as listeners’ arousal level and mood fluctuate with time and experience” (Schellenberg 2005). On the other hand, children who get involved in music lessons in childhood, and take a more active approach to their involvement in music, have more long lasting positive effects on their cognitive development. Children learn so many skills when actively engaging with music, but it is a major time commitment to experience the long term benefits. Schellenberg concludes his study by stating involvement in any extracurricular activities have a positive impact on child development.

Humpal and Wolf discuss broader positive impacts music has on children; particularly, they discuss music’s ability to impact literacy growth, teach social skills, and provide a more inclusive environment. Music’s impact on the brain is incredible; it helps to release certain endorphins that cause relaxation and joy, and it positively impacts the brain to allow for growth in creativity and reasoning. Every child is unique in their own way, but they all long for the same feeling of community and belonging. The community music creates is extremely beneficial for children, especially children with exceptionalities, because it promotes a joyful, happy environment. Music requires collaboration, and when children begin to work with one another and engage with one another through music they strengthen their community. Inclusion is a really important aspect of a child’s life, especially as they enter school and begin to meet new people. The authors recall a specific example in which a student in a wheelchair struggled with feeling included in certain activities, but was able to engage in music and felt overjoyed. Music is special in this regard because at a young age it does not require any skill or talent to be involved in it. All children can engage with music in some form, and as the educator, it is a trial and error process to find what works for each individual child.

John Vitale was curious after hearing so many people claim “music makes you smarter,” so he completed this study on one hundred participants and found evidence to validate this statement. Music does make one smarter, and Vitale found this was especially true in the academic areas of math and science. Even though this statement was proven true, he explained how the phrase actually demeans music education. The “music makes you smarter” notion implies one would use music simply to become smarter in other academic areas. This thought process spurs people to believe you need to have an ulterior motive in order to learn music. This kind of thinking is toxic; music should be used for the sole purpose of making, learning, and appreciating music. It is okay to appreciate the benefits music has on other academic areas, but those positive effects come second to learning music for the sake of learning music. There are not many things in this world that inspire and have such an amazing impact on human experience like music does.

**Interview**

To explore this topic further, I interviewed Dr. Jacqueline Secoy. I have been given permission to use her name and interview for my research project. Dr. Secoy is the head of music education at Longwood University, and is the perfect person to ask various questions about whether or not music has an impact on children’s cognitive development. Dr. Secoy has completed her own studies, and her research and time as a music educator prior to coming to Longwood makes her an invaluable source. Our conversation revealed so many interesting thoughts and ideas that I otherwise may not have thought of or read, so it was extremely eye opening. I wish I could include the entire conversation because her wisdom and insight is truly incredible; I have decided for the sake of this format to include my favorite questions or the questions that inspired the best conversations. Throughout this entire interview process Dr. Secoy reminded me that there was a lot that went into each question; very often the question had no definitive answer, or to quote her, not everything was “black or white”. My opening question to Dr. Secoy was simply my main title question for this research project: “In your experience, do you believe music has a positive cognitive impact on children?” She answered “Yes”, but explained how there was a certain level of depth to that question than providing a simple “yes” or “no”. She stated, “there's a lot that goes into it. Many factors play into cognitive development, so music will most likely have a positive impact. It can improve the life of a child and does have an impact on brain development but it is not just as if one type of music makes everyone smarter.” We discussed this idea a lot in relation to the idea that people used to believe where playing classical music during one’s pregnancy would make their child “smarter.” This was disproven, because in reality any type of music has a positive impact; different musical styles have varying impacts on children. Dr. Secoy stated music “does have a positive impact, but one type of music may impact one child whereas a different type of music will impact another child differently.” She went on to explain how the brain works better with musical study; specifically “motor skills, connecting ideas, thinking abstractly are all positively impacted by music’s impact on brain pathways.” Dr. Secoy explained to me how much of this information has been gained recently due to its ability to be tested through recent advances in technology. Another question I asked was whether or not she could attest to the idea that Schellenberg presented where listening to music has short term positive effects while actively engaging in music has more long term effects. She agreed with this idea, and elaborated on it by stating “the more we engage earlier in our life the more we benefit. As we grow we make so many connections in our brain, so when we do that earlier in life we can embed it more to last over a lifetime.” She compared this to learning two languages at a young age. It is easier to learn a second language at a younger age than it is to learn it as an adult. “The earlier we can have any experience with music, the more comfortable we will be, and our brain is better primed to learn new things. Kids that learn things early have a positive impact on their brain.” This directly answers my research question, and Dr. Secoy even elaborated by saying the positive cognitive impact goes beyond music and academics. This cognitive performance impacts everyday life! The question I was looking forward to asking Dr. Secoy the most was how she felt about people using music as an “enhancer” tool to be better in other classes. She elegantly answered “American schooling has placed subjects in a hierarchy, but that is the wrong way to look at it. Learning one discipline, you learn another because everything is connected.” She gave the example how in science class you will end up doing math. “There is connection in everything we do, but our schools organize this poorly. When you think in a musical or artistic way, you are able to learn so many other things. These subjects are not ‘isolated.’” We both began to unpack the question “why music?”, as opposed to other creative outlets. Dr. Secoy is a huge advocate for music education, and she explained to me how “the benefit of learning music helps us connect to our humanness in a unique way that can’t be replicated by another form. It is special.” She stated how one subject is not better than the other, because in a perfect world we should learn everything evenly. “Music engages us aurally, physically, in movement, in breath; it is a whole brain activity in which we are completely engaged and all of our senses are working at once. Music helps us be human and connect to other people.” A huge issue in the music community right now is this connection is missing due to the COVID-19 virus. Music “inspires collaboration; you have to interact at some point with someone else.” This interaction alone makes music worthy of study, because it is proven that the environment and interactions children have are extremely crucial to their development. Dr. Secoy explained the reasoning behind music education being seen as an enhancer for other subjects is due to acts of “desperation because of the hierarchy and funding purposes.” In the school system, being artistic has become an ‘extra.’ Music educators have had to advocate and justify themselves, which is why they say music helps with other subjects. Music helps you think, but it doesn’t mean if you play an instrument you will be a genius in history, science, math, or english. In short, we shouldn’t do music with the mindset of participating in it to do other things, even though it does help.

**Advocacy**

 Advocating for one’s beliefs is extremely crucial when completing research studies. Advocating answers the “what now” question so many researchers have after completing their project, especially in the case of student researchers. Advocacy gives a voice to those who wish to administer a positive change in their chosen area of research; without advocacy, no growth would ever be achieved. In order to advocate for this study’s findings, an informational powerpoint presentation was developed to share with music educators, educators, school board officials, and parents. The presentation answers the question of whether or not music makes children smarter, but goes into detail to explain the different participation levels in music and the various long and short term positive effects music can have. The main reason for this powerpoint presentation is to advocate for music education and its importance in the development of children. Child development is such a widely studied topic, and there are many impactful factors. Music has been proven to positively impact child development because it has such an amazing impact on cognitive function. That being said, parents and school systems should strive to have it implemented in many different ways in the lives of their young students. Many education systems struggle with funding, and often music educators have to fight for their importance in order to continue to gain funding. Over time, music educators have advocated that music helps students achieve better in core subjects, such as math or science. While this may be true, this is not the point of this presentation. Music needs to be advocated for its importance on its own; not as a step stool for other academic subjects. The format of a powerpoint presentation was chosen because of the world’s current status; people feel more comfortable gaining information virtually, and virtual presentations provide so many opportunities to reach larger, more diverse audiences. This format also allows for visual aids, which are always important when explaining something to a large group of people. The goal for this advocacy piece is that people will leave with a renewed thought process towards music; they will come to understand the positive impact music has on the development of children, and educators and parents can act on this knowledge by ensuring music education’s place in society. It is also crucial that this powerpoint presentation conveys how music should not be used as an enhancer tool for other core subjects. Music education should be revered for what it is, and should be praised for its ability to improve cognitive function in children.

**Summary and Conclusion**

As a future music educator, this research project has really helped open my eyes to the different thoughts and ideas that circulate in this community. Each study I reviewed were extremely well done, and really impacted my own way of thinking in a positive way. I myself have been known to arrogantly proclaim “music makes you smarter,” and now I have a renewed mindset and can think in a new, informed way. I sought out to find whether or not children who participate in music have greater cognitive function, and I have found that children who participate in music do have greater cognitive function. While this is great news on its own, there is so much more to it than this. Music has an overall positive impact on children, and while some effects are long term, some effects are short term. People nowadays search for quick fixes, and music is simply not the answer for someone looking for a quick way to enhance their brain. Music takes time, and the long lasting positive effects it has can only come after practicing, growing, learning, and engaging. I found that music impacts children cognitively, but also socially and emotionally. Music inspires community amongst children, and provides them with an environment where they can feel joy and included. This community engagement helps growth in so many areas of child development and proved to me that all educators of young children should strive to include music in their classroom in some way or form. Music is special because everyone has a place and purpose, no matter the background. I found that while music does make children smarter, it should not be used as an enhancer for other areas of academia; using it as a quick way to get better at something else is detrimental. This mindset has come from years of music educators having to justify music education as a means to continue to get school funding. School boards are willing to fund band programs because kids who play music do better in math; while this may be true, these benefits should not be the sole reason we participate in music or allow it to remain in the school systems. Music should be respected and appreciated for what it is, and should be held in higher regard by all due to the positive impact it has on children.

**References**

Schellenberg, E. G. (2005). Music and Cognitive Abilities. *Current Directions in Psychological*

 *Science*, *14*(6), 317–320. <https://doi-org.proxy.longwood.edu/10.1111/j.0963-7214.2005.00389.x>

Humpal, M., & Wolf, J. (2003). Music in the Inclusive Environment. *YC Young Children,* *58*(2),

 103-107. Retrieved September 30, 2020, from <http://www.jstor.org/stable/42729949>

Vitale, J. (2011). Music Makes You Smarter: A New Paradigm for Music Education? Perceptions

 and Perspectives from Four Groups of Elementary Education Stakeholders. *Canadian Journal of Education / Revue Canadienne De L'éducation,* *34*(3), 317-343. Retrieved September 30, 2020, from <http://www.jstor.org/stable/canajeducrevucan.34.3.317>