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## Musically Minded: the effect of music on the brain

by Sarah Adams, Artshub

Ever wondered why that perfect pitch can cause your hairs to stand on end? Or why one particular song can ease your anger? The human race has for centuries been aware of the healing powers of music on the soul, but as we move further into the twenty-first century, we actually have the science to prove it.

"I had known a long time ago that music is beneficial for health, and it has been used therapeutically since the Egyptian writings and papers" says Dr Kamal Chémali, a neurologist who specialises in the effects of music on the brain and the way that can be used to heal. The technical term for this is "Neuromusic" and examines the effect of music on the normal and abnormal physiology of the nervous system.

"Today, we are at a very privileged era, that we have technology, we have imaging techniques, we have a lot to help us understand more what's happening in our system. Everything we used to call a product of the mind, like emotions, like reactions to music, today and tomorrow, will more likely have a biological explanation."

When we are talking about using music as a health benefit we are talking about two different things: music medicine and music therapy. Music medicine is not goal orientated like music therapy, which concentrates on one area that needs development, much like physical therapy where you work on a weak muscle and, over time, the muscle grows strong. Some examples of music therapy demonstrating its effectiveness are a stroke victim who learned to talk again and a multiple sclerosis patient who was assisted in walking.

People used to think depression was from the devil and now we know that it's just two molecules in the brain that aren't working correctly, if we fix those molecules the depression goes away. But, like anything to do with mental health, proving the effectiveness of music's healing properties can be difficult because it is limited by its subjectivity.

Dr Chémali points out that music therapy and music medicine research is limited by similar constraints to that of pain research. A patient can tell you that their pain is 7 out of 10, but there is no way of knowing if that same amount of pain would be different in another individual. There is no tool to measure their pain, just as there is no tool to indicate personal preference when it comes to music, and that's not even factoring in other elements, like associative memory.

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Dr Chémali says that it's very important that his research is understood on both sides of the coin: the health care professionals and the artists, and he was speaking at LIVE! Singapore to help promote understanding among artists especially, "I think artists need to know that their art changes the physiology, it's like me, a doctor. I know that when I prescribe a medicine I can change you, or certain things in you. The artist needs to know that she plays the music for you, she can change things within your body and those things can be long lasting as well. I think it's a different perspective of approaching the arts."

He spoke at the conference with pianist Ms. Prisca Benoit, from the Conservatoire de Paris, who also believes in the healing properties of music. ArtsHub asked her that if being aware that her music can have a medical effect changes the way she plays she says, "It's different for me, when I play, to know that it has a big impact on health. Physical, or psychological, everything, I already felt in myself when I was very, very young. It was the only thing that calmed me down. So my parents looked for a long time, they tried many things, to calm me down and finally they found classical music and especially piano. So it changed my life, so of course I am aware of this capacity of the music and the body."

As with any new types of medicine, there are bound to be skeptics, and Dr Chémali says that this skepticism can be born of two things: Firstly, that music therapy is usually practiced by nurses and musical therapists who don't hold medical degrees, which therefore has it interpreted as a paramedic practice by many doctors. Secondly, is the lack of large scale demographic research in the area - studies which usually result in the subsequent publication of papers in renowned medical journals and that would not only give credibility, but create acceptance among the medical community.

As for the future of music therapy/medicine, Dr Chémali believes that it is very bright, at least in the US where he works at the Cleveland Institute. More and more hospitals are investing in musical therapists, but it is still linked to economics and must continue to prove itself to those who manage the money.

Dr Chémali adds, "This thing has to spread, the word has to go out, people have to know about it, and a great way is to have those students who know what's happening in the field that they're specialising in, so we address ourselves to the medical field but also to the music field, I think it's very important."

But what's most interesting about "Neuromusic" is that we can actually see the science of the soul and explain biologically our emotive reactions to music, something that we've always known occurred but have never quite understood.

Sarah Adams is an editor with Australia's leading website for the creative and arts industries, [Artshub](http://Artshub).