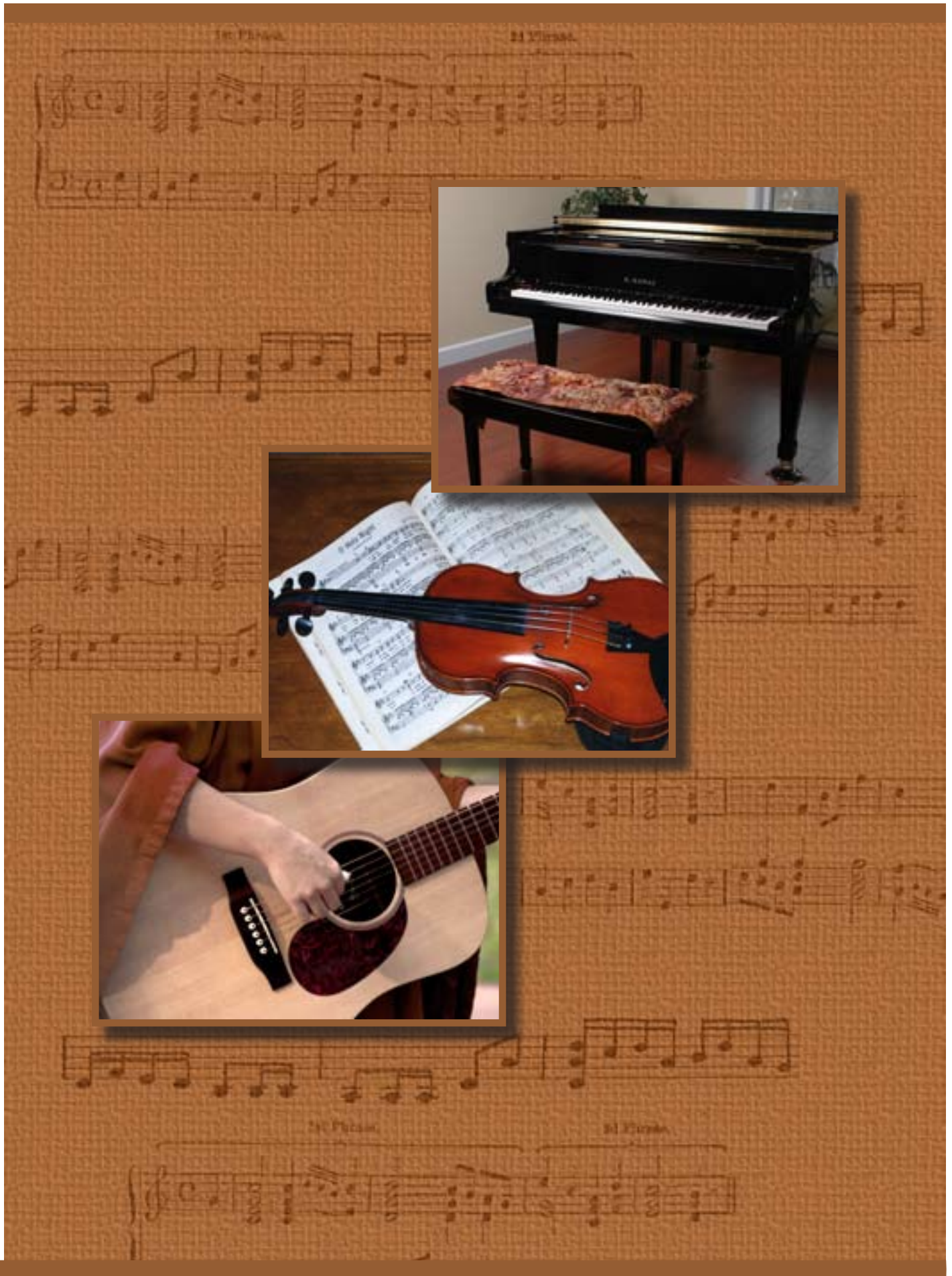


# 🎵 *Music & the Mind*

by Angela Poch, NC

🎵 *Music Info Sheet*



### INTRODUCTION

Music. The wonder of sound with melody, harmony, and rhythm. It brings rest to the weary, energy to the tired, and enjoyment to all. So what does music have to do with the mind? Most of our body functions originate in the mind, from walking to hormone production, the brain is the control center.

Some of the benefits of music (mostly classical music such as Mozart and Vivaldi were studied):

- Increased milk production in humans and cows
- Increases plant growth
- Pain reduction, endorphins released
- Improved brain function (in several capacities such as: memory, cognitive function, literacy, verbal memory, general memory\*, visiospatial processing\*, mathematics, IQ\*, and more.)
- Evoke various emotions (pathos)
- Reduce stress, anxiety, etc.
- Improves melatonin levels\* (helping with sleep and depression)
- Combined with exercise it improves verbal fluency

Some of these benefits\* come only with playing and singing music, others can be achieved by listening. Even if the musician cannot play well, the effects are positive. A combination of both listening and playing is the best approach to optimal brain health.

### WHAT IS MUSIC?

Music is a complex system of molecules connecting with your hear and your brain's interpretation of those forces. Sound, unlike light, is a physical reaction from the source affecting the destination (the cochlea).

Music has several basic parts: pitch, key, contour, rhythm, tempo, meter, and intervals. Each of these affect similar or different parts of the brain. Key and contour affect the temporal lobe. The Basal ganglia is involved in rhythm, tempo and meter and so on.

Good, well written music combines each of these parts into a whole that is in harmony with each other. How would it sound to sing "Marching to Zion" in 3/4 time

(as a waltz) or in a minor key or slow as a funeral procession? In music, dynamics (how we accent a phrase) are also important.

### How it affects the mind

The mind interprets and is affected by music based on several different factors such as: what music you have been exposed to and how much you've been exposed to it. The advanced musician actually 'hears' more harmony than the unlearned ear. Different styles of music affect individuals differently, but there are some commonalities that remain for us all.

Fast tempo's (for the sake of simplicity I am using this term loosely) can raise the heart rate, raise blood pressure, and impart energy (by how the mind reacts to the music being played or sung). Even cognitive function is increased with some of the more energetic forms of music. Slow songs lower the heart rate and blood pressure, while relaxing us. But it is not tempo alone that affects us.

Harmonies and melodies activate the temporal lobes and can help brain damaged or brain diseased persons perform daily tasks which they could not perform without music. Music can also increase endorphin levels, those happy hormones, decreasing the need for pain medication. It can regulate many of the different stress hormones and it can boost the immune system. Bass notes carry a lot of energy, and the brain uses them as the framework for the piece of music, with the melody in the fore front. (You could see how excessive booming bass can affect the mind inappropriately.)



Major and minor scales. Major keys are generally perceived as happy, while minor keys are sad. Even small children can recognize the sound as sad or happy, something quite intuitive. But is a minor, or sad sound bad? No, a minor key adds a sober touch, and when used appropriately it can give reverence to a song like some of the Christmas Songs "We Three Kinds" and "O Come, O Come Immanuel." There are many soft,



slow tempo songs that are not in a minor key that also produce a sombre, relaxing effect. "I Come to the Garden Alone" or "I Must Tell Jesus." The lyrics and melody accompany each other well.

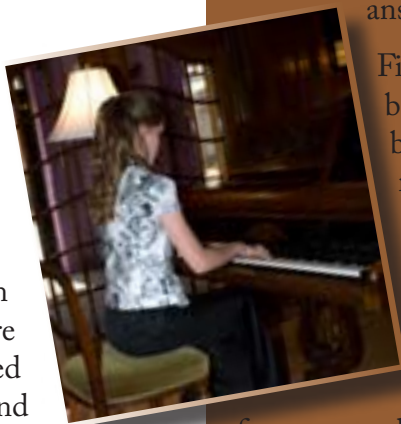
Timbre, the sound that distinguishes one instrument from another. Timbre helps give an overall "feel" to a piece. Rock wouldn't be rock with a string quartet. Yes, you would recognize the melody, but that is about all.

We are not the same emotionally from day to day. Some days we are under more stress than others, some days we are tired and lethargic, some days we are rushed and pressed on all sides. What you listen to the day you are tired will not be what you need on the busy day. Music needs to be appropriate to the situation, much like calorie intake or nutritional supplementation. But this doesn't mean we let our emotions choose the music for us. Principle must dictate the best course.

When we are down cast and tired, we need stimulating music. Perhaps "Onward Christian Soldiers" or "Marches in C Major" by Mozart. And conversely when we are running in all directions, something more soothing is required. Thus we can use music consciously to control our own emotional state. Good music should produce emotions, or pathos. But we should determine what emotions it stimulates. A good hymn at the right time can help win a soul to the cross.

But music should not be allowed to run our emotions out of our own control, this can produce harmful effects. Hypnotic states, aggressive emotions, and other negative effects are used by the music master Satan to increase violence, make wrong seems funny or right, and reduce inhibitions to sin.

It's not always 'bad' music that is the trouble, sometimes it is good music at the wrong time that can produce the undesirable effect. Many documentaries use classical and other music to sway the viewer to accept an error (by the weight of importance) or to laugh (which is a form of acceptance) at poor principles.



## IS THERE 'BAD' MUSIC?

It is very clear that music has a direct physiological and psychological effect on our minds. So, what is the best music for the mind? It depends. What kind of answer is that? The best one. Let me explain.

First you should know the music that has been studied the most in relation to the brain is primarily western music. (Classical, most of Europe, all North American (non-native) are all considered western music.)

The first thing to look at is volume. Loud music is not only linked to hearing loss, but actually has an impact on the brain chemistry.

The neurons fire at their maximum rate. In fact, one study showed that low doses of MDMA (or a drug called ecstasy) did not modify brain function until loud music was played. The effect lasted up to five days after the initial experiment (more than even a high dose of the drug which lasts only one day). How loud did they experiment with? 95dB, the volume of big truck, by the way a typical rock concert is 120dB. Even some fortissimo's (extra loud, usually short in duration) in a classical music hall, depending on the proximity of the musicians can get up to 100dB. (Just for reference, a quiet room is about 35dB, and a normal conversation is 50dB.)

The second danger in music is improper rhythm and timbre. Lack of a noticeable rhythm, like found in New Age music, reduces the frontal lobe function and can lead to trance-like states. On the other hand, heavy dominate rhythms, like in rock music can also cause reduced function. (While there is some benefit to ALL music, including rock & jazz, if the listener enjoys the music, we need to be aware of the down sides as well.) Just some of the studies on rock & jazz music found:

- Reduced breast milk production up to 50% less
- Nausea, stomach cramps, panic attacks.
- Enhances suicidal tendencies (especially heavy metal)
- Ultra & infra sounds (inaudible) can destroy the brain
- Fainting, hallucinogenic reactions
- Lead to reduced frontal lobe function
- Disrupts RNA (a chemical messenger vital for memory)

So, what is improper rhythm? An excessive &/or repetitive rhythm that fights the melody or overpowers it is the simplest explanation. Or a lack of rhythm, such as New Age music.

*Music theory is an important topic and Sette Publishing is currently working on a book on the subject.*

## THE MOZART EFFECT

Music is not a cure all as suggested by some. Some are professing great cures, while others fail to get the same results in later experiments. Music does have a place in regulating brain activity which helps in many diseases and painful conditions. Our bodies are multifaceted and we often need more than one "cure" so to speak. Diet, exercise, prayer, and yes, even music can all work together to improve our health.

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## DISCLAIMER

This handout is intended to offer general information which is subject to change. This information is not intended to diagnose, treat, or cure any disease. We do not make any diagnosis or personal treatment suggestions. We urge you to learn about health so that you can make informed decisions.

## Get motivated!



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