

# **THE MAGIC OF MUSIC & SOUND**

## **GOAL**

To give good reasons, as a leader, to better manage musical and acoustic sounds.

(dBA is not to be adversely confused with DBA, a Doctor of Business Administration /Healthcare.)

## **INTRODUCTION**

In general, like fine-tuned musical instruments, the coordinated sounds of true leadership are melodic. Like a vision of coordinated oneness, the leader of today visualizes and learns how and when to produce the sounds of organizational harmony. It is an orchestrated combination of organizational sounds and behaviors. Finally, the crescendo occurs with evidence of organizational success.

With the literal use of inflection of the human voice to the audible frequency, elevation, and lowering of chosen overhead musical tones, there is a vibration throughout the entire organizational body. Often unrecognized is the vibration that occurs within the very soul of man.

The human reactions to music/sounds are varied; however, there are commonly known human effects in our biological and behavioral responses that result from the decibels of music/sounds.

## **UNDERSTANDING dB VERSUS dBA**

The word “decibel” (dB) means a unit used to measure the intensity of sound by comparing it with a given level on a logarithmic scale.

Use and the addition of decibel A, (dBA) is a measurement of sound loudness that adjusts decibels to account for how humans hear sounds, that is human sensitivity to varying frequencies. The dBA is most often used for audio and broadcast equipment where there are dBA-weighted limits.

## **LOUD VERSUS SOFT HUMAN RESPONSES TO MUSIC/SOUNDS**

Loud Music/Sounds: (Above 50 decibels-dBA)

Result: A negative change in human cell structure occurs and can cause cognitive impairment and changes in the brain—especially decreasing the ability to focus, remember, and sleep.

Above 50 decibels (dBA) the Stress Response occurs within the cardiovascular system causing a release of stress hormones leading to impaired cognitive function. Hearing loss can occur with the onset of tinnitus (ringing and buzzing in the ears without evidence of external sounds). The louder the music/sound, the shorter the amount of time for hearing loss to occur. Also, neurodegenerative disease (e.g. Alzheimer's) can occur, which alters the information transfer from the ear to the brain.

### Soft Music/Sounds: (Around 30 dBA)

Result: Music played at a softer volume or dynamics and without any lyrics causes a positive change in human behavior. It makes people feel peaceful and calm.

Soft music can be referred to in numerous ways—mellow, quiet, light, bland, gentle, or smooth. There are slow beats and low tempos. Studies have shown that there is a relaxation response in the body and a decrease in heart rate and blood pressure through a relaxing body response.

Tranquil/soft music helps us sleep better at night and improves brain functioning. Tranquility is the so-called body state that is achieved with a sense of calmness by hearing soft music/sounds. With calmness there is a lessening of the sensation of pain, endorphins are produced, and the immune system is enhanced. There is an accompanying reduction of stress and an increase in cognitive function, memory, and problem-solving.

Like the sound of water in a stream and all other accompanying sounds of nature, soft music/sounds (sometimes called White Noise) can create a relaxing ambiance to help produce sleep. White Noise of your selection can be played softly in a crowded setting to not interrupt conversations or disrupt decision-making.

## **STUDIES REGARDING IDEAL dBA MEASUREMENTS**

The University of Illinois determined that 50 to 70 dBA is usually considered ideal and optimum for office productivity—which was similar to music/sounds on television and in coffee shops. However, environments too quiet allow too much focus on the task at hand, therefore, decreasing creativity.

A more recent study, however, from the University of Arizona on Place, Wellbeing & Performance, suggests that the pandemic may have changed our sense of an ideal dBA volume. That study has recommended 50 dBA (a quiet environment) as ideal for optimum office productivity.

Therefore, it appears that a somewhat researched consensus of office productivity and associated creativity can be promoted with sounds below 70 dBA.

## **HOW TO MEASURE dBA**

To measure decibels (dBA), use a Sound Level Meter or a Sound Meter Application/App.

Sound Level Meter: Turn on the sound meter to display the dBA reading.

Sound Meter Application/App: For Android or IOS devices (phone), the accompanying microphone is used. This device is usually used for less critical situations and applications. (e.g. Apple Watch)

Suggestions for correct reading of decibels (dBA):

1. Stand close to the source
2. Avoid other noises
3. Measure at different times to help ensure accuracy

## **IN CLOSING**

Not all dBA concerns are about office environments. Music/sounds accompany and can enhance all types of human activities—including retail shopping.

Important is the general information and intellectual use of music/sounds that can enhance and produce desired organizational outcomes. Intellectual awareness that

environmental music/sounds are one of the many leadership skills often overlooked in the commitment to skillful leadership of any organization.

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