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## Role of music in fitness

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### Abstract

Listening to music when you hit the gym to improve your workout isn't exactly a new concept. The relation of exercise and music has been long-discussed, crossing the disciplines of biomechanics, neurology, physiology, and sport psychology. People "automatically feel the beat" of the music they listen to and instinctively adjust their walking pace and heart rate to the tempo of the music. Listening to music while exercising has been found in multiple studies to create an increased sense of motivation, distracting the mind while increasing heart rate. Generally, studies suggest that athletes use music in purposeful ways to facilitate training and performance. A study found that cyclists actually worked harder when listening to faster music as compared to music at a slower tempo. The music accompaniment to exercise provides an important beneficial effect to the exercise experience. Many health and fitness instructors regard the addition of music to exercise similarly to enhance physical performance.

**Keywords:** Music, fitness and exercise

### Introduction

Listening to music when you hit the gym to improve your workout isn't exactly a new concept. But understanding *how* your favourite tunes enhance your exercise is a little less obvious. The relation of exercise and music has been long-discussed, crossing the disciplines of biomechanics, neurology, physiology, and sport psychology. People "automatically feel the beat" of the music they listen to and instinctively adjust their walking pace and heart rate to the tempo of the music. Listening to music while exercising has been found in multiple studies to create an increased sense of motivation, distracting the mind while increasing heart rate. Faster tempo music has been found by researchers to motivate exercisers to work harder when performing at a moderate pace, but peak performance has been found to be unaffected by listening to music.

In a study published in 2009, researchers at the Research Institute for Sport and Exercise Sciences at Liverpool John Moores University had 12 subjects ride a stationary bicycle at a pace that they could sustain for 30 minutes while listening to a song of the subject's choice. In successive trials, they rode the bikes again, with the tempo of the music variously increased or decreased by 10%, without the subject's knowledge. The researcher's results showed that the rider's heart rate and mileage decreased when the tempo was slowed, while they rode a greater distance, increased their heart rate and enjoyed the music more at the faster tempo. Though the participants thought their workout was harder at the more upbeat tempo, the researchers found that when the faster-paced music was heard while exercising "the participants chose to accept, and even prefer, a greater degree of effort".

A 2004 study by a research team from Australia, Israel and the United States found that runners performing at a pace where they were at 90% of their peak oxygen uptake enjoyed listening to music. Crazy enough, the music had no effect on their heart rate or running pace, regardless of the music's tempo. Generally, studies suggest that athletes use music in purposeful ways to facilitate training and performance.

To further this idea, a study from the *New York Times* shows how music helps boost workouts. This experiment was done by testing a control group of people working out in a normal workout setting and the same group of people working out with machines that incorporated beats and rhythms into each rep. To do this, they installed the kits into three different workout machines, one a stair-stepper, the other two weight machines with bars that could be raised or pulled down to stimulate various muscles.

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“Participants could express themselves on the machines by, for instance, modulating rhythms and creating melodies.” Throughout each workout, the researchers monitored the force their volunteers generated while using the machines, as well as whether the weight lifters’ movements tended to stutter or flow and how much oxygen the volunteers consumed, a reliable measure of physical effort.

Here are six very good reasons to rock out during your next gym session.

### **Music is the Good Kind of Interruption**

While the study did suggest there’s more to it than distraction, working out with music did make participants less aware of their exertion. Such a distraction can benefit athletic performance by up to 15 percent, *The Guardian* reported. The faster the better, according to WebMD: Upbeat tunes have more information for our brains to process, which takes your mind off of that side stitch.

### **It Lifts up Your effort**

A study found that cyclists actually worked harder when listening to faster music as compared to music at a slower tempo. But too fast is no good, either. Songs between 120 and 140 beats per minute (bpm) have the maximum effect on moderate exercisers.

### **Music Puts You ‘in the Zone’**

Everyone has that go-to song that gets you “in the zone,” and there’s science to why it works. We associate certain songs with memories, often relating to the context in which we originally heard them, such as the first time you watched like in movie *Marikom* “dil yeh ziddi hai” and chak de india song “kuch kariye kuch kariye” make you motivated.

### **A good beat can help you keep momentum.**

The rhythm of your workout music stimulates the motor area of the brain as to when to move, thereby aiding self-paced exercises such as running or weight-lifting. Clueing into these time signals helps us use our energy more efficiently, since keeping a steady pace is easier on our bodies than fluctuating throughout a sweat session.

### **Music can change your mood**

An August 2013 analysis found that people often listen to music as a way to change their mood and find self-awareness. Study participants said that listening to music allowed them to think about themselves, who they wanted to be and give them an escape from the present. No matter what happened an hour ago, you can use your tunes to help you escape negativity and power you through your workout — and you know you’ll feel great when it’s over.

### **Listening music while you work has an important added benefit**

According to a study published earlier this month, the relationship between music and physical exertion may be more complicated than we initially thought. It isn’t just listening to music that drowns out our pain and exhaustion, asserts lead researcher Tom Fritz. The process of creating and controlling music in time to one’s exercise improves the experience even more.

Participants exercised on machines designed to alter the music they were listening to based on their movements, essentially allowing them to create their own soundtrack. Compared to exercisers who had no control over the music, those with

“musical agency” reported feeling like they hadn’t worked as hard.

We can’t all work out on equipment that coordinates our movements with musical sounds, but we can harness the power of creating music when we exercise. The finding, said Fritz about his study may provide “a previously unacknowledged driving force for the development of music in humans: making music makes strenuous physical activities less exhausting.”

From the introduction of aerobic dance in the early 70’s, it has generally been regarded that the music accompaniment to exercise provides an important beneficial effect to the exercise experience. Many health and fitness instructors regard the addition of music to exercise similarly to enhance physical performance, with the removal of music or an inappropriate selection of music as a sure bet to an unsuccessful class. However, it may come as a surprise that scientific evidence has conflicting results when it comes to investigating the effects of music on exercise performance. Often concurrent with the enhanced physiological processes of relaxation, subjects report feeling more relaxed on a psychological level as well.

### **Conclusion**

Music therapy, however, can play a much more significant active role in enhancing the psychological processes of relaxation. One valuable way an aerobic fitness instructor can use music in the teaching arena is as a pre-class stimulus. The majority of the studies suggest that music may significantly increase respiration rate and moderately elevate heart rate, preparing the student for the anticipated workout. Although performance may or may not be enhanced by the addition of music to the workout, subjects regularly report that they felt their performance was better with the music accompaniment. Therefore, music may directly improve a person’s enjoyment and fulfillment of the physical activity, leading to greater exercise compliance; a worthwhile objective for any fitness educator. As our industry moves towards a more holistic approach of exercise for the mind, body, and spirit, perhaps we will learn new ways to incorporate music to achieve these ends.

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