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Magic of music

A simple habit can boost your brainpower, productivity and performance

By Justin Bariso | Inc.

Your playlist may be more valuable than you think.

Research has long indicated that music has the potential to boost concentration and performance on cognitive tasks, such as writing or spatial reasoning, and that music can also be a powerful tool for emotional regulation. Now researchers from New York University Tandon School of Engineering have begun to show how these two principles may work together.

"Maintaining a proper level of cognitive arousal (also known as 'intensity of emotion') may result in being more productive throughout daily cognitive activities," writes Rose Faghieh, an associate professor of biomedical engineering who co-wrote a new study with her associates analyzing how music choices influence productivity. Faghieh and her colleagues found that listening to exciting music enabled 5 out of 6 participants to register higher performance on cognitive tasks.

But the study is interesting because it was inspired by the Yerkes-Dodson law, a little-known law of psychology designed to model the relationship between stress and behavior, developed more than 100 years ago.

And while this study is



DREAMSTIME

new and has a small sample size, it builds on previous neuroscience research that analyzed the influence of background music on participants' emotions and performance. What is the Yerkes-Dodson law, and how does it relate to previously published neuroscience research?

And more important, how can all of this knowledge help you? To answer these questions, let's dive more deeply into the research and see how you can put these learnings to work.

The Yerkes-Dodson law

was originally developed in 1908 by psychologists Robert Yerkes and John Dodson.

It states that too little arousal (stress) causes you to become bored and decreases motivation. As arousal increases, so does your motivation, causing you to perform better at certain tasks. At a certain point, though, you reach an optimal level of arousal and performance; after that, stress causes your performance to decrease.

In the NYU study, participants selected two types of music: the first with calming

music components to mimic a low-arousal environment, and a second with more exciting components for a high-arousal environment.

The researchers then used physiological data, such as skin surface temperature, respiration, and electrocardiogram; as well as behavioral signals, such as facial expression.

As the findings indicated, the participants demonstrated overall better performance when listening to the exciting background music. However, the researchers also found that participants' performance conformed with the Yerkes-Dodson law.

The authors of the study admit that several factors, such as "the learning effect, the nature of the task, the participant's baseline, and the type of applied music, can impact the outcome."

However, they also acknowledge that "it might be feasible to enhance cognitive performance and shift one's arousal from either the left or right side of the curve using music." As mentioned, this new research actually builds on decades of brain research.

For example, in 2020, a group of neuroscientists used magnetic resonance imaging to investigate the influence of music on different emotions and performance. They found that

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Zero-interest credit card? Buyer beware



Terry Savage
The Savage Truth

Some of my best column ideas come from you, my readers. The example below was posted on my AskTerry blog at [TerrySavage.com](https://www.terrysavage.com). It inspired me to do some digging, not only into this situation but into other credit card tricks.

"Terry, I purchased furniture at The Room-Place three years ago on a 36-month interest-free promotion. I was given a \$4,100 credit limit. I have made my payments (on time), always paying more than the minimum amount in an effort to build my credit (I am a single mom and I own a mortgage). When I went to make a payment today, I saw my balance went from \$1,000 to over my credit limit at \$4,300-odd dollars.

"I called Comenity, the issuer of my credit card, and they informed me that the promotional period ended on March 17, and because I didn't pay the \$1,000 balance prior to March 17, they added the accrued interest at an adjustable

variable rate of 35.9% to my balance.

"I asked if they would allow me the three-day grace period if I paid the \$1,000 and they said NO. I am beside myself — crushed and crying with this added debt. Is there any recourse? This seems like predatory lending at its best, or worst!"

'Deferred interest offer'

I reached out to Ted Rossman, senior industry analyst at [Bankrate.com](https://www.bankrate.com) and [CreditCards.com](https://www.creditcards.com). He explained that this "deferred interest offer" is a common practice of retail card issuers, which typically charge high rates over 30% anyway.

"Lenders dangle 0% interest for a time," he says, "but the big catch is that when it's deferred interest, if the full amount is not paid off before the clock expires, then the lender retroactively assesses all of the interest that would have accumulated back to the start of the period."

In fact, this reader's huge balance of \$4,300 included interest from Day 1, even though she had been making regular payments; she just hadn't paid off the full balance within the 36 months.

But not all zero-interest

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NOTICE OF CHANGE TO THE ORANGE COUNTY COMPREHENSIVE PLAN – PUBLIC HEARING

On **Tuesday, May 7, 2024, beginning at 2:00 PM**, or as soon thereafter as the matter may be heard, the **Orange County Board of County Commissioners (BCC)** shall conduct a public hearing in the Orange County Administration Center at 201 S. Rosalind Ave., 1st Floor, in downtown Orlando, FL, regarding the **transmittal** of the proposed **2024-1 Regular Cycle Staff-Initiated Text Amendment** to the Orange County Comprehensive Plan ("CP"), as it has been amended, as authorized by Chapter 163, Florida Statutes, for the following matter:

Staff-Initiated Comprehensive Plan Text Amendment

2024-1-B-CP-1 - Text amendments to Potable Water, Wastewater and Reclaimed Water Element (WAT) Policies WAT1.2.5 and WAT1.2.6 and Capital Improvements Element (CIE) Policies CIE1.3.4 and CIE1.3.5 to revise Level of Service (LOS) standards.

ABBREVIATIONS INDEX: CP-Comprehensive Plan; FLUM-Future Land Use Map; FLUE-Future Land Use Element; CIE-Capital Improvements Element; WAT-Potable Water, Wastewater and Reclaimed Water Element; GOPS-Goals, Objectives, and Policies; OBJ-Objective.

Any interested party may appear at the public hearing and be heard regarding the consideration of the above described Comprehensive Plan Amendment, and submit written comments to the address below prior to the public hearing.

The public hearing may be continued on the date of the public hearing to a future date or dates. Any interested party is hereby advised that the date, time, and place of any continuation of the public hearing shall be announced during the public hearing and that no further notices regarding these matters will be published.

To obtain more detailed information, or to inspect the proposed amendment package, or any part thereof, any interested party may appear between 8:00 A.M. and 5:00 P.M., Monday through Friday, at the Orange County Planning Division, 201 S. Rosalind Ave., 2nd Floor, Orlando, FL, 32801, or telephone during those same hours at 407-836-5600, or send an email to planning@ocfl.net.

In accordance with the Americans with Disabilities Act ADA, if any person with a disability as defined by the ADA needs special accommodation to participate in this proceeding, then not later than two (2) business days prior to the proceeding, that person should contact the Orange County Communications Division, 3rd Floor, Orange County Administration Center, 201 S. Rosalind Ave., Orlando, FL, or telephone that department at (407) 836-6568.

PARA MAS INFORMACION, REFERENTE A ESTAS AUDIENCIAS PUBLICAS, FAVOR COMUNICARSE CON LA DIVISION DE PLANIFICACION URBANA AL NUMERO, (407) 836-5600. POU PLIS ENFOMASYON AN KREYÒL, SOUPLE RELE (407) 836-3111.