Pump up the music—especially the bass—to make you feel powerful

August 5 2014

Credit: Wikipedia.

It's the day of the big game – before heading out to the field, you put on your headphones and blast some music to pump you up. The music seemingly empowers you to do great things. This effect is not all in your head – according to new research, music truly does make us feel powerful. But not all songs have the same effect, researchers found, and the levels of bass are a key factor in their effectiveness.

"When watching major sports events, my coauthors and I frequently noticed athletes with their earphones on while entering the stadium and in the locker room," says Dennis Hsu of the Kellogg School of Management at Northwestern University. "The ways these athletes immerse themselves in the music – some with their eyes steely shut and

some gently nodded along the beats – seem as if the music is mentally preparing and toughening them up for the competition about to occur."

These observations got Hsu and his colleagues curious as to whether music can truly transform the psychological state of the listener. Previous research has established that music can have positive effects on people, ranging from enhancing learning and motivation to reducing physical pain. However, no study until now has linked music to a sense of power, identifying not only the consequences but also a potential cause of this link.

The researchers first pre-tested 31 pieces of music from several genres, such as sports music, hip-hop, and reggae, to see how powerful participants felt listening to 30-second clips. From this pre-test, they identified the highest power and lowest power songs. Songs rated as powerful included Queen's "We Will Rock You" and 2 Unlimited's "Get Ready for This," while songs rated lower in power included songs such as Fatboy Slim's "Because We Can" and Baha Men's "Who Let the Dogs Out."

Then, in a series of experiments, the researchers looked at how the highest and lowest rated power songs affected both people's sense of power and three previously identified psychological and behavioral consequences of power: the tendency to see the forest instead of the trees (thought abstraction), perceived control over social events (illusion of control), and the desire to move first in competitive interactions.

For each dimension of power they tested, the research team adopted specific tasks from previously established research, for example a die-rolling task to measure illusion of control, an item categorization task to measure abstraction, and a decision-making scenario to measure moving first. "Part of our objective was to test whether music produces the same downstream effects of power found in other sources," Hsu says. The

researchers also surveyed the participants about their positive feelings and statistically controlled for them to make sure that any effects found were above and beyond those created by emotion.

As published today in *Social Psychological and Personality Science*, the researchers found that the high-power music not only evoked a sense of power unconsciously, but also systematically generated the three downstream consequences of power. Importantly, the researchers also ruled out lyrics as the cause of the effects, separately asking people to rate how powerful the lyrics made them feel. "Because participants did not report increased powerful feelings after reading the lyrics, we can rule out the semantic priming effect of lyrics in the selected songs," Hsu explains.

Hsu's team also conducted separate experiments to look at one structural component of music that might explain the music-power effect: bass levels. "We chose to manipulate bass levels in music because existing literature suggests that bass sound and voice are associated with dominance," Hsu says. They also observed that bass sound and voice are frequently utilized in popular culture to project perceptions of dominance and confidence. (Think James Earl Jones as Darth Vader in Star Wars.)

In the bass experiments, the researchers asked participants to listen to novel instrumental music pieces in which bass levels were digitally varied. In one experiment, they surveyed participants about their self-reported feelings of power, and in another, they asked them to perform a word-completion task designed to test implicit, or unconscious, feelings of power. They found that those who listened to the heavy-bass music reported more feelings of power and generated more power-related words in the implicit task than those listening to the low-bass music.

The effects of the bass levels support one possible explanation for why

music makes people feel more powerful: the "contagion hypothesis." The idea is that when people hear specific music components that express a sense of power, they mimic these feelings internally. "Importantly, because we used novel, never-before-heard music pieces in these experiments, it suggests that the effect may sometimes arise purely out of contagion," Hsu says. "Of course, this does not preclude the possibility that music could induce a sense of power through other processes, such as conditioning."

The "conditioning hypothesis" suggests that certain pieces of music might trigger powerful experiences because these experiences are often paired with that particular music. For example, music used frequently at sports events may elicit powerful feelings because of the association with power, rewards, and winning (e.g., "We Are the Champions" is often played to celebrate victory).

Hsu and colleagues plan to further study other potential mechanisms through which music can induce power. They are also interested in exploring whether empowering music can lead to more desirable outcomes in contexts such as negotiations, employee performance, job interviews, marketing campaigns, and social perceptions.

"Although significantly more research needs to be done before we can truly begin to understand music's effects on our psychological experiences, I believe our findings provide initial evidence for the potential strategic use of music, especially in situations where people need to feel empowered," Hsu says. "People might want to explore whether pumping up their favorite tunes can quickly ease them into an empowered mental state before going into a first date, an important client meeting, or a job interview."

More information: The paper, "The Music of Power: Perceptual and Behavioral Consequences of Powerful Music," by Dennis Y. Hsu, Li

Huang, Loran F. Nordgren, Derek D. Rucker, and Adam D. Galinsky, was published in *Social Psychological and Personality Science* online on August 5, 2014. spp.sagepub.com/content/early/ … 50614542345.abstract