

The Best Music for Productivity? Silence

Studies show that for most types of cognitively demanding tasks, anything but quiet hurts performance.

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"... bad news for anyone, like me, who believes background music is some sort of special hay that makes the writing horse trot. It turns out the best thing to listen to, for most office workers, is nothing.

An [early study](#) called "Music—an aid to productivity," appropriately found that music could be just that. But the study subjects in that experiment were doing rote factory work, examining metal parts on conveyor belts. The boost in productivity the researchers noticed happened because the music simply made the task less boring and kept the workers alert. This also helps explain [later studies](#) finding that music helped surgeons perform better. "Most of what a brain surgeon spends their time doing is drilling through the skull bone," said Daniel Levitin, a neuroscientist and author of [This Is Your Brain on Music](#). "In that case, it's a situation like being a long-distance truck driver. If nothing goes wrong, the task itself is somewhat boring and repetitive, so you need something that will keep you psychologically aroused." (Of course, at some point the surgeon will have to start doing stuff to the brain itself, at which point you'd hope they would hit pause.)

When silence and music were put head to head in more cognitively complex tests, [people did better](#) in silence. In a [study](#) from the 1980s, researchers gave subjects the option to listen to either upbeat or soft music of their preferred genre, or nothing, while counting backward. The people who listened to their favorite, upbeat tunes did worst of all, and those who heard silence did best.

The more engaging the music is, the worse it is for concentration. Music with lyrics is dreadful for verbal tasks, Levitin said. Music with lots of variation has been found to impair performance—even [if the person enjoys it](#). A [just-out conference paper](#) showed that music and speech, compared with white noise, made study subjects more annoyed and hurt their scores on memory and math tests.

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Some studies—one that used [meditative Koan music](#) and another that used quiet [classical music](#)—showed slightly positive effects of background noise on task performance. But lyric-free music is less distracting, and some of the people whose performance was improved may have come up with subconscious mental hacks to avoid getting sidetracked by music. One study that had middle-schoolers listen to the *Billboard* singles from 2006—Daniel Powter’s “Bad Day” and such—while reading found nearly three-quarters of them did worse on a comprehension test. But those that didn’t might “have developed cognitive strategies that enable them to focus on study tasks despite competing background stimuli,” the [authors wrote](#).

The reason this doesn’t work for most people, Levitin said, is most people can’t pay attention to very much at once. Lyrics can soak up precious attention, as can flashing lights or a really bad smell.

"You've got semantic information that you're trying to use when you're reading a book, and you've got semantic information from the lyrics," Nick Perham, a psychologist at the University of Wales Institute [told Edutopia](#). "If you can understand the lyrics, it doesn't matter whether you like it or not, it will impair your performance of reading comprehension."

The effect of music on concentration might be worse [for older people](#), or those who naturally prefer quiet. [One](#) experiment had extroverts and introverts listen to, among other songs, INXS’s “A New Sensation,” which made it more difficult for introverts, but less so for extroverts, to memorize images and read a passage. (Extroverts also tend to play background music while they work more than introverts do, so perhaps they’re just more accustomed to it.) Another [recent study of 42 children](#) found that white noise helped those with ADHD concentrate. The authors chalked it up to a concept called stochastic resonance—the idea that lower-than-average dopamine levels in the brains of people with ADHD means they might need a bit more noise from the external environment in order to steady their concentration skills.

So, I asked Levitin, if listening to music while working is so bad, why do so many of us do it? Simple: We like it, and we can’t tell it’s messing us up. As one [small recent study](#) found, people *prefer* listening to music over office noise or silence, even though it didn’t help them think any better.

If you simply can’t go a day without your beats, “take a break every few hours and listen to music for 15 minutes,” Levitin said. (There’s some evidence that listening to music [between tasks](#) can boost performance.) Then go back to your silent cave and order [this chit-chat stoplight](#) to passively aggress against your noisy colleagues instead. "