

# Background music can impair performance, cites new study

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For decades research has shown that listening to music alleviates anxiety and depression, enhances mood, and can increase cognitive functioning, such as spatial awareness. However, until now, research has not addressed how we listen to music. For instance, is the cognitive benefit still the same if we listen to music whilst performing a task, rather than before it? Further, how does our preference for a particular type of music affect performance?

A new study from [Applied Cognitive Psychology](#) shows that listening to [music](#) that one likes whilst performing a serial recall task does not help [performance](#) any more than listening to music one does not enjoy.

The researchers explored the 'irrelevant sound effect' by requiring participants to perform serial recall (recall a list of 8 consonants in presentation order) in the presence of five sound environments: quiet, liked music (e.g., Rihanna, Lady Gaga, Stranglers, and Arcade Fire), disliked music (the track "Thrashers" by Death Angel), changing-state (a sequence of random digits such as "4, 7, 1, 6") and steady-state ("3, 3, 3"). Recall ability was approximately the same, and poorest, for the music and changing-state conditions. The most accurate recall occurred when participants performed the task in the quieter, steady-state environments. Thus listening to music, regardless of whether people liked or disliked it, impaired their concurrent performance.

Lead researcher Nick Perham explains: "The poorer performance of the music and changing-state sounds are due to the acoustical variation

within those environments. This impairs the ability to recall the order of items, via rehearsal, within the presented list. Mental arithmetic also requires the ability to retain order information in the short-term via rehearsal, and may be similarly affected by their performance in the presence of changing-state, background environments."

Although music can have a very positive effect on our general mental health, music can, in the circumstances described, also have negative effects on cognitive performance. Perham remarks, "Most people listen to music at the same time as, rather than prior to performing a task. To reduce the negative effects of background music when recalling information in order one should either perform the task in quiet or only listen to music prior to performing the task."

**More information:** This study is published in the September 2010 issue of Applied Cognitive Psychology. [www.interscience.wiley.com/jo.../123587968/abstract](http://www.interscience.wiley.com/jo.../123587968/abstract)

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