

# Research: Too much, too little noise turns off consumers, creativity

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Ambient background noise turns out to be an important factor affecting creative cognition among consumers, according to research from Ravi Mehta, a professor of business administration at Illinois. Credit: Photo courtesy University of Illinois College of Business.

The sound of silence isn't so golden for consumers, and both marketers and advertisers should take note, says new research from a University of Illinois expert in new product development and marketing.

According to published research from Ravi Mehta, a professor of business administration, ambient [background noise](#) turns out to be an important factor affecting creative cognition among consumers.

"We found that ambient [noise](#) is an important antecedent for creative cognition," Mehta said. "A moderate level of noise not only enhances creative problem-solving but also leads to a greater adoption of innovative products in certain settings."

In the article, Mehta and co-authors Rui (Juliet) Zhu, of the University of British Columbia, and Amar Cheema, of the University of Virginia, explore how a moderate-level of ambient noise (about 70 [decibels](#), equivalent to a passenger car traveling on a highway) enhances performance on creative tasks and increases the likelihood of consumers purchasing innovative products. Similarly, the researchers also studied how a high level of noise (85 decibels, equivalent to [traffic noise](#) on a major road) hurts creativity by reducing information processing.

"What we found is that there's an inverted-U relationship between [noise level](#) and creativity," Mehta said. "It turns out that around 70 decibels is the sweet spot. If you go beyond that, it's too loud, and the noise starts to negatively affect creativity. It's the Goldilocks principle – the middle is just right."

Using background noise commonly found in consumers' lives, the researchers show that, as noise increases, so does one's level of distraction.

"An increased level of distraction makes you think 'out-of-the-box' – what we call abstract thinking or abstract processing, which is a hallmark of increased creativity," Mehta said. "But when you start to go beyond that moderate level of noise what happens is that distraction becomes so huge that it really starts affecting the thought process. You really can't process information because the distraction is so pronounced. And that is what inhibits creativity.

"So a moderate level of noise produces just enough distraction to lead to

higher creativity, but a very high level of noise induces too much distraction, which actually reduces the amount of processing, thus leading to lower creativity."

The research, which has important practical implications for inducing consumer behavior, should be useful for both advertisers and marketers, who typically strive to increase adoption rates of new and innovative products.

"We studied this in a consumer environment because previous research has only considered white noise or pink noise" – a variant of white noise, which sounds like the static buzz of an off-air TV station – "which you don't really find in consumer environments," Mehta said. "So in this case we used everyday multi-talker noise to find out how it affects consumer behavior in a consumption environment. In order to encourage adoption of new and innovative products, marketers might consider equipping their showrooms with a moderate level of ambient noise."

Mehta says the research is not only applicable to consumer research, but also to problem-solving in general.

"This is research that people can relate to almost immediately," he said. "I'm working in a coffee shop – how does the noise in the background volume of the music affect my performance?"

It's also valuable for individuals looking for creative solutions to everyday problems, such as planning a dinner menu based on limited supplies or generating interesting research topics to study.

"Our findings imply that instead of burying oneself in a quiet room trying to figure out a solution, walking outside of one's comfort zone and getting into a relatively noisy environment like a cafe may actually trigger the brain to think abstractly, and thus generate creative ideas,"

Mehta said.

**More information:** Mehta, Ravi, Rui (Juliet) Zhu, and Amar Cheema, “Is Noise Always Bad? Exploring the Effects of Ambient Noise on Creative Cognition,” Manuscript in preparation for submission to *Journal of Consumer Research*.

Provided by University of Illinois at Urbana-Champaign

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