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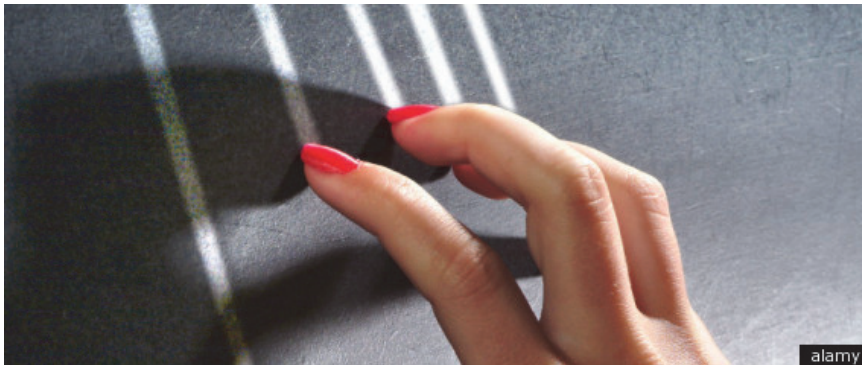
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Nails On Chalkboard, Similar Sounds Amplified In Ear Canal And Cause Physical Distress, Study Says



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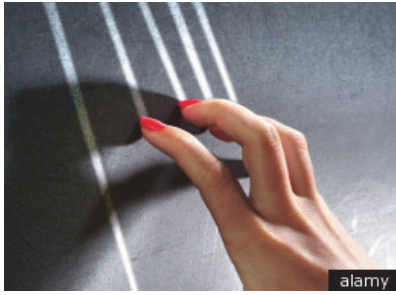


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Most of us can't bear the sound of nails on a chalkboard (*shudder*), but now, researchers have a possible explanation as to why the sound makes us cringe and cover our ears.

It turns out our [adverse reaction to the piercing sound is partly physical and partly psychological](#), and that the part of the noise that makes us wince has a frequency between 2,000 and 4,000 Hz (hertz), a range naturally amplified by the shape of our ear canals, *Wired Science* explains.

Researchers from the Macromedia University for Media and Communication in Germany and the University of Vienna worked together to get to the bottom of the sound's bad rep.



They exposed participants to the sound of nails on a chalkboard as well as similar sounds, such as a fork scraping a plate and Styrofoam squeak, [according to ScienceNow](#).

Some were told the sound was part of a "musical composition," while others were told the source of the noise. The researchers measured the physical reactions (blood pressure, heart rate, skin conductivity) of all persons. All participants were told to rate how pleasant or unpleasant they found each noise to be.

Researchers also experimented with removing certain parts of the sound in an effort to identify which parts participants found unpleasant.

If people knew what caused the noise, they tended to rate it as more unpleasant. Those who were told the noise was part of a tune rated it as less unpleasant. However, both groups had measurable physical reactions to the displeasing frequencies, despite how they rated the sound, [Wired Science points out](#).

Previous research on the hair-raising noise failed to identify the exact frequency range persons found offensive. The findings of this study will be presented [Acoustical Society of America conference](#) in San Diego, Calif., which runs from Oct. 31 through Nov. 4.

Previously, a study in the *Journal of Social, Evolutionary and Cultural Psychology* showed that [whining is actually the most distracting sound](#) ever, when compared with the crying from a baby, a high-pitched table saw, silence, regular talking, baby talk and "motherese."

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