

# Sounds, smells could sway our self-image

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Previously, researchers have shown that visual and tactile stimulation can change a person's perception of their own body weight. Research being presented by Giada Brianza, of the University of Sussex, has found our hearing and sense of smell can also change how we feel about our self-image, which could help improve healthy behaviors.

The presentation, "Understanding the impact of sound and smell on body image perception," will be a part of the 179th Meeting of the Acoustical Society of America. This session will be presented on Dec. 11. The meeting will be held virtually Dec. 7-10.

To see if sounds could change body image perceptions, the researchers used headphones to alter in real time how patients heard their own footsteps. Heavier bodies produce lower frequency footsteps than lighter bodies, so the researchers thought that changing the sound could alter how a person perceives their own image.

When the researchers played higher-pitch footsteps that sounded like stilettos, the [test subjects](#) were walking faster compared with when they heard lower pitch sounds, like the sound boots make.

The researchers also tested how scents could change one's perceived body image. They found exposure to lemon-scented [essential oils](#) in combination with high-pitched sounds during the experiments made participants feel lighter than vanilla scents.

These first results in sound-scent body image association are still being studied, but already the power of audio on body image has promising applications. Since negative [body](#) image can lead to increased risks for eating disorders, isolation, and [emotional distress](#), finding ways to manipulate self-image could enhance health through promoting better self-image.

The researchers believe that multisensory stimuli—[sound](#) and smell, in particular—should play a greater role in treating [body image](#) diseases, like eating disorders.

**More information:** [acousticalsociety.org/technical-program/](https://acousticalsociety.org/technical-program/)

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