

# Hugging 'breathing' cushion eases anxiety

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**H**UGGING a cushion that simulates breathing has relieved anxiety in students.

In experiments, volunteers who used the device were less stressed before maths tests. It was effective as meditation - offering hope of settling young people who are anticipating exams.

Dr Alice Haynes, of the University of Bristol, said: "We were excited to find that holding the breathing cushion, without any guidance, produced a similar effect on anxiety in students as a meditation practice.

"This ability of the device to be used intuitively opens it up to providing wider audiences with accessible anxiety relief."

The touch-based cushion mechanically mimics breathing. Treatments for anxiety disorders primarily include costly therapy and medications which may have unwanted side effects.

At-home anxiety aids could complement therapies and also benefit people experiencing temporary attacks.

A growing body of evidence highlights the potential of neuroscientific wearables known as as TouchPoints. They are clinically proven to provide fast relief from stress. They also improve sleep and increase focus.

A therapeutic robot baby harp seal called PARO has also been developed which is interactive - and very cute.

It is meant to have a relaxing effect and elicit emotional responses in hospital patients and nursing home residents - similar to animal-assisted therapy except using robots.

Now, Dr Haynes and colleagues have created the cushion. They initially built several prototypes that simulated different sensations - such as breathing, purring and a heart-beat. Each took the form of a soft, huggable cushion that was

meant to be intuitive and inviting.

Focus groups identified the 'breathing' version as being the most pleasant and calming.

So the researchers made a larger, mechanical cushion and recruited 129 volunteers for an experiment involving a group mathematics test.

Using pre- and post-test questionnaires, they found those who used the device were less anxious pre-test than peers who did not.

The experiment also compared the breathing cushion to a guided meditation, and found that both were equally effective at easing anxiety.

The researchers now hope to further refine the cushion for testing in people's homes.

They also plan to investigate people's physiological response to the device - for instance, changes in heart rate or breathing patterns.

This will elucidate the particular mechanisms by which the device might ease anxiety.

Dr Haynes said: "Feedback from workshops suggested simulating breathing through a huggable cushion produced a calming and enjoyable interaction.

"Conducting a formal psychological study found hugging the cushion had a similar effect as a breathing meditation in alleviating students' anxiety when anticipating a test.

"This suggests the cushion could offer students additional support during examination periods, but also that the cushion is intuitive to use and so could be beneficial to a wider range of audiences."

The researchers expected it

to provide some relief - but were surprised at just how effective it was.

Dr Haynes said: "We feel this demonstrates the power of touch as an intuitive and supportive modality."

She added: "The haptic field has expanded rapidly in recent years, demonstrating many beneficial applications for tactile devices.

"We hope this study provides additional encouragement to designers and researchers to incorporate haptics in their work within the sphere of health and wellbeing.

"We have been continuing our research and are especially interested in measuring physiological responses to the breathing cushion as well as incorporating more interactivity into the device."



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