

A slow, loving, 'affective' touch may be key to a healthy sense of self

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A loving touch, characterized by a slow caress or stroke - often an instinctive gesture from a mother to a child or between partners in romantic relationships – may increase the brain's ability to construct a sense of body ownership and, in turn, play a part in creating and sustaining a healthy sense of self. These findings come from a new study published online in *Frontiers of Psychology*, led by Neuropsychanalysis Centre Director Dr. Aikaterini (Katerina) Fotopoulou, University College London, and NPSA grantee Dr. Paul Mark Jenkinson of the Department of Psychology, University of Hertfordshire in the UK.

The study, of 52 healthy adults, used a common experimental technique known as the [rubber hand](#) illusion, in which participants' brains are tricked into believing that a strategically placed rubber hand is their own. As they watch the rubber hand being stroked in synchrony with their own, they begin to think that the fake hand belongs to them. This technique demonstrates the changeable nature of the [brain](#)'s perception of the body.

Affective touch, characterised by slow speed [tactile stimulation](#) of the skin (between 1 and 10cm per second) has been previously correlated with pleasant emotion and has also been seen to improve symptoms of anxiety and other emotional symptoms in certain groups of adults and infants. Dr. Fotopoulou's team wanted to test whether affective touch would affect the brain's understanding of the body and body ownership.

The team adapted the 'rubber hand' technique to incorporate four

different types of touch, including a synchronized and asynchronized, slow, affective touch and a faster neutral touch, again in synchronous and asynchronous patterns. Participants were also asked to complete a standardized 'embodiment' questionnaire, to measure their subjective experience during the experiment.

The results confirmed previous findings that slow, light touch is perceived as being more pleasant than fast touch. More importantly, the study demonstrated that slow tactile stimulation made participants more likely to believe that the rubber hand was their own, compared with the faster neutral touch.

The perception of affective touch in the brain is one of a number of interoceptive signals that help us monitor homeostasis. This study provides new evidence to support the existing idea that interoceptive signals, such as affective touch, play an important role in how the brain learns to construct a mental picture and an understanding of the body, which ultimately helps to create a coherent [sense](#) of self.

Decreased sensitivity to and awareness of interoceptive signals, such as affective touch, have been linked to [body image](#) problems, unexplained pain, anorexia nervosa and bulimia.

"As affective touch is typically received from a loved one, these findings further highlight how close relationships involve behaviors that may play a crucial role in the construction of a sense of self," said Laura Crucianelli, the researcher who carried out the study.

"The next step for our team," concluded Dr. Katerina Fotopoulou, "is to examine whether being deprived of social signals, such as affective touch from a parent during early development, may also lead to abnormalities in the formation of a healthy body image and a healthy sense of self, for example in patients with eating disorders such as

anorexia nervosa."

Boosting interoceptive awareness and an individual's sense of [body](#) ownership could be key to developing future treatments for some of these conditions, and the sensation of 'affective touch' could play an important role.

Provided by Neuropsychanalysis Foundation

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