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"Pinocchio effect" means people's noses heat up when they lie

Temperature scans using a thermal camera show that the area round human noses tends to heat up when we lie, say University of Granada researchers.

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In the children's story, Pinocchio's nose grows every time he tells a lie - but real noses can also give away when we're telling fibs.

Temperature scans using a thermal camera show that the area round human noses tends to heat up when we lie.

The effort of concealing our feelings seems to cause the area to grow warmer - and it is very difficult to mask. The finding could have important implications for lie detection and interrogation of suspects.

A team at the University of Granada are pioneering using a thermograph - the infrared cameras used in night vision cameras - in psychology.

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When a person lies they suffer a "Pinocchio effect", which is an increase in the temperature around the nose and in the orbital muscle in the inner corner of the eye.

In addition, when we perform a considerable mental effort our face temperature drops and when we have an anxiety attack our face temperature raises.

Thus, sexual excitement and desire can be identified in men and women using thermography, since they induce an increase in chest and genital temperature.

This study demonstrates that –in physiological terms– men and women get excited at the same time, even although women say they are not excited or only slightly excited.

Thermographic cameras have a wide range of uses such as measuring energy loss in buildings, indicating respiratory diseases in cows or rabies in raccoons.

Thermography was developed in the USA during the II World War to detect the enemy (night vision) - but has rarely been applied to psychology.

Scientists have discovered that when a mental effort is made (performing difficult tasks, being interrogated on a specific event or lying) face temperature changes.

When we lie about our feelings, the temperature around our nose raises and a brain element called "insula" is activated.

The insula is a component of the brain reward system, and it only activates when we experience real feelings - the insula is

involved in the detection and regulation of body temperature.

Therefore, insula activity seems to be 'inversely' related to facial temperature change - ie concealing your real thoughts makes your face heat up more.

The more active the insula (the more 'real' the feeling) the lower the temperature change, and viceversa, the researchers state.

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