

Affiliative Touch & Emotion Regulation

ABSTRACT:

Background

C-tactile afferents (CTs) are a recently discovered class of unmyelinated, mechanosensitive nerve, found in the hairy skin of mammals. They respond optimally to slow moving gentle touch typical of caress. Their response strength is positively correlated with subjective ratings of touch pleasantness. It is hypothesised that CTs communicate the rewarding value of touch from conspecifics, providing the neurobiological basis for social support through physical contact.

Aims

The project utilised psychophysiological and behavioural methods to investigate whether CT touch provides an innate social signal, capable of buffering stress responses.

Method

Experiment 1 examined the relationship between poor regulation of the autonomic nervous system (ANS), indicative of heightened stress, and preference for CT touch. ANS activity was measured using heart-rate variability (HRV) and, as with all experiments CT optimal (1-10cm/sec) and control speeds (<1 or >10 cm/sec) of touch were delivered by an automated robot. In Experiment 2 stress was measured through startle eye-blink responses to a loud noise. The ability of CT touch to reduce these startle reflexes was compared to both control touch, and socially supportive imagery. In Experiment 3 stress was induced through a cognitively demanding task performed in front of the experimenter. Cardiac and electrodermal activity were measured during performance. Half the participants received CT optimal touch as the task progressed, while the other half received a non-CT-optimal control touch.

Results & Conclusions

As hypothesised, those participants with low HRV showed significantly reduced sensitivity to the rewarding value of CT activating touch. Initial analyses also provide some indication CT activating touch may carry an innate stress buffering signal, supporting the belief that they underpin social support of mental and physical health through touch. However, further analysis is required to definitively support this conclusion.

Keywords

Touch, C-Tactile afferent, Stress, Emotion regulation, Social

Researchers' Contacts:

Francis McGlone: F.P.Mcglone@ljmu.ac.uk

Susannah Walker: S.C.Walker@ljmu.ac.uk

Ralph Pawling: R.Pawling@ljmu.ac.uk

Peter Cannon: P.R.Cannon@massey.ac.nz