

The ‘Heartwarming’ Nature of Social Bonds

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Emotional connections with others are one of the fundamental ingredients for a happy and fulfilled life. Seeking out these connections often feels good, providing a kind of social “warmth.”

New research published in *Psychological Science* suggests that this social warmth may be more than metaphor, revealing that brain areas involved in the perception of physical warmth are also involved in heartwarming social experiences.

“The neural systems in place to detect signs of social connection may have borrowed from the neural systems that detect physical warmth,” write psychological scientists Tristen Inagaki and Naomi Eisenberger. “We investigated whether experiencing social warmth increases feelings of physical warmth and whether experiencing physical warmth increases feelings of social connection.”

While lying in an fMRI machine, participants were asked to complete various tasks. For the physical warmth task, the participants held a room-temperature ball and a warm pack. For the social warmth task, they read positive messages from close friends (e.g., “Whenever I am completely lost, you are the person I turn to”) or neutral statements from those same friends (e.g., “You have curly hair”).

While rating their experience afterward, participants described feeling more socially connected while holding the warm pack compared to when they held the room-temperature ball. Furthermore, participants reported increased feelings of warmth after reading the positive messages compared to when they read the neutral messages.

And the fMRI data indicated that physical warmth and social warmth shared overlapping neural mechanisms in the middle insula and ventral striatum.

The results lend support to the theory that the neurobiological system for physical warmth was co-opted

for social warmth over the course of human evolution, leading individuals to seek out social connection and reinforcing these experiences over time.

Inagaki and Eisenberger believe that the research could also impact the lives of modern-day humans:

“These results may have implications for the beneficial effects of physical warmth on social relationships,” the researchers write. “Given the importance of social connections for general well-being and happiness, this may inform larger interventions designed to combat feelings of isolation or loneliness through temperature manipulations.”

Inagaki, T.K., & Eisenberger, N.I. (2013). Shared Neural Mechanisms Underlying Social Warmth and Physical Warmth. *Psychological Science*. DOI: [10.1177/0956797613492773](https://doi.org/10.1177/0956797613492773)