

Study Maps Social Proximity to Temperature

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Adding to the emerging literature on “embodied cognition,” a new study looks at metaphors, like “the cold shoulder” and “warm feelings,” to test the link between thermometer readings and feelings of closeness or distance, affection or iciness.

Utrecht University psychologists Hans IJzerman and Gun Semin conducted a series of experiments designed to look at the connection of our bodily sensations are inextricably bound up with emotions like hatred and desire. In the first experiment, volunteers who had just arrived in the lab were asked to hold the experimenter’s beverage for a few minutes, ostensibly so he could do something that required two hands. Some were handed a cold beverage, and others a warm one. Then they were asked to rate both themselves and an acquaintance on a well-known scale that measures social proximity; the more they overlapped with the other, the higher their score on closeness; the less overlap, the more distant they were feeling. The results were also straightforward. Holding the warm beverage induced greater feelings of closeness than the cold beverage.

Those findings are intriguing but hardly conclusive, so the researchers looked at the body-mind link a different way. When we are literally close to someone or something, we see more detail; our experience is more concrete. Similarly, distance makes our vision of things more vague and abstract. The psychologists reasoned from this that feelings of warmth would induce not only emotional closeness toward others, but also perceptual closeness—and thus more vivid and concrete perceptions.

They didn’t use beverages in this study. Instead they varied the room temperature, from the low 60s F to low 70s F. This isn’t a huge variation, but the researchers figured it would be enough to test the idea that temperature shapes emotion and thought. They showed all the volunteers a short film clip of chess pieces moving around, but not the usual way chess pieces move, and they asked the volunteers to describe “in their own words” what was happening. The idea was that room temperature would shape their perceptions and as a result the language that the volunteers used. That is, warm observers would write concrete descriptions of the chess scene, and chilly observers would write more abstract descriptions.

And that’s exactly what they found. When they coded the language in the narratives, they found that room temperature did indeed affect the volunteers’ choice of words. The warm volunteers also expressed greater feelings of closeness toward the experimenter.

The psychologists decided to take this one step further, to see if temperature shapes not only language but worldview. It’s well known that people from cultures that place a high value of individualism—Americans, for example—have a particular cognitive style, compared to more communitarian cultures. Specifically, those from communal cultures tend to see patterns in the world, where individualists tend to see disconnected parts. The researchers suspected that warmth would spark more a more relational worldview, while cold would induce a more self-reliant view.

They varied the room temperature as before, but this time they had the volunteers take a perception test specifically designed to differentiate these cognitive styles. That is, some people perceive patterns where others see independent components, and this is taken as a measure of either a relational or individualistic worldview. And once again, temperature showed a clear and direct connection to how volunteers processed what they saw. As reported on-line in the journal *Psychological Science*, warmth made volunteers see the connections between things, while the chilly were more individualistic in their perceptions of the world.

So affection, concrete language, communitarian worldview—that's a lot to hook to the simple rising and falling of mercury. But perhaps it shouldn't be surprising, the researchers say. After all, the mind evolved along with the body over millions of years, so the way we think and feel was no doubt shaped by real and important experiences in the world. What could be more basic than staying warm?