No Evidence For Human Pheromones

By Julianna LeMieux — March 14, 2017

The existence of human pheromones is hotly debated. Ask any woman who has lived in a college dorm and she is likely to tell you that they exist because the women synced their menstrual cycles when living together. But, anecdotal evidence not withstanding, the scientific evidence for pheromones in humans [1] is lacking.

However, just because human pheromones have not been identified yet does not mean that they don't exist. Most other species use them for social cues such as mating - why not humans? Following that line of thinking, scientists are still looking for them - using interesting experimental setups to do it.

A recent study, Putative sex-specific human pheromones do not affect gender perception, attractiveness ratings or unfaithfulness judgements of opposite sex faces [2], looked specifically at the role of two steroids, androstadienone (AND - associated with men) and estratetraenol (EST - associated with women,) that have recently been reported to signal male and female gender. Although these two substances remain controversial, a body of research has grown around their effects on behavior, physiology and mood - making them good candidates for human sex pheromones.

The researchers devised a way to test the role of AND and EST in mate perception by exposing people to them while they are judging different characteristics of faces shown on a computer screen. The first task tested whether AND and EST altered the perception of gender of the faces and the second measured attractiveness.

The study asked heterosexual people (both male and female) to chose whether five gender neutral faces (see below) shown to them on a computer were male or female. The substances (AND, EST or a control) were administered throughout the test - via a cotton ball taped under the nose of the participants. All cotton balls also had clove oil to mask any underlying smell differences. The
participants completed the tasks twice - on two consecutive days. They received the control scent on one day and the putative pheromone (AND or EST) on the other.

The prediction was that the participants would attribute maleness to a gender neutral face if exposed to AND and femaleness if presented if exposed to EST. However, the rank of the faces did not change with the presence of the AND or EST.

In the second task, participants recorded attractiveness, each on a scale from 1 (low) to 10 (high), for each face. The researchers predicted that the level of attractiveness would change upon exposure to the substances. Specifically, that a gender neutral face would appear more attractive to a heterosexual person when presented with the steroid that corresponds to the opposite face. However, exposure to the substances had no effect on attractiveness ratings.

The debate about human pheromones will certainly continue. However, these results suggest that, even if they do exist, it is unlikely that AND and EST are among them.

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