

"Sexy" Smells Different for Gay, Straight Men, Study Says

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for [National Geographic News](#)

May 10, 2005

A new study shows that gay men respond differently from straight men when exposed to a suspected sexual stimulus found in male sweat.

When homosexual men smelled the odor of male sweat—more specifically, a chemical in the male hormone testosterone—their brains responded similarly to those of women.

The findings suggest that brain activity and sexual orientation are linked. It also supports an opinion held by most scientists, that people are born—not bred—gay.

"This is one more line of evidence that there's a biological substrating for sexual orientation," said Dean Hamer, a geneticist at the National Institutes of Health in Bethesda, Maryland.

Hamer is the author of *The Science of Desire: The Gay Gene and the Biology of Behavior*. He was not involved in the research, which was conducted by scientists at Karolinska Institutet in Stockholm, Sweden.

The study was published today in the research journal *Proceedings of the National Academy of Sciences*.

Reproductive Behavior

The scientists exposed heterosexual men and women and homosexual men to chemicals found in male and female sex hormones. One chemical is a testosterone derivative produced in men's sweat. The other chemical is an estrogen-like compound in women's urine.

These chemicals have long been suspected of being pheromones, molecules emitted by one individual that evoke some behavior in another of the same species. Pheromones trigger basic responses, such as sexual attraction, in many animals.

But scientists have long debated if humans respond to pheromones. The new study suggests that pheromones indeed play a part in making humans sexually attractive to one another.

In a previous study a few years ago, the Swedish researchers showed that the brain's hypothalamus region, which is involved in sexual behavior, becomes activated when men smell EST (the estrogen derivative) and women smell AND (the testosterone compound), but not vice versa.

For their new study, the scientists added a sexual-orientation element, which revealed a difference in the brain activity of gay and straight men.

The researchers found that the testosterone compound activated the hypothalamus in homosexual men and heterosexual women, but not heterosexual men. Conversely, the estrogen compound activated the hypothalamus only in heterosexual men.

"It shows a different physiological response to the same external stimulus," said Ivanka Savic, a neuroscientist at the Karolinska Institute and the study's lead researcher. "This response [occurred] in the brain region involved in reproductive behavior."

When the study subjects sniffed scents such as cedar or lavender, all of their brains reacted only in the region that

handles smells—not sexual behavior.

Biological Explanation

The results show that the human brain reacts differently to potential pheromones compared with common odors.

"It directly shows a link between brain activity and sexual orientation," said Hamer, the NIH geneticist.

Hamer cautions that the gay men's different brain activity could be either a cause of their sexual orientation or an effect of it. But, he said, "it certainly seems unlikely that somehow being interested in men would cause the brain to rewire itself in such a dramatic way."

Other studies have also found that gay and straight men respond differently to the body odors of others.

Scientists at the Monell Chemical Senses Center in Philadelphia, Pennsylvania, found that gay men preferred odors from other gay men, while odors from gay men were the least preferred by straight men and women.

The Monell Center's results were released yesterday and are to be published in the journal *Psychological Science* in September.

"There are many ongoing studies in the field, and I think that we soon will have better clarification," said Savic, the Karolinska Institute neuroscientist. "At the moment, there are no definite proofs."

However, the new studies boost the hypothesis that homosexuality has a genetic basis and is not simply the result of learned behavior.

"This, incidentally, is not in any way controversial for biologists," Hamer said. "It's completely expected from the basic tenets of biology. It's only controversial because of the social and political controversy over homosexuality."

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