

The Pill Makes Women Pick Bad Mates

by Jeanna Bryner, Live Science Managing Editor | August 12, 2008 04:04pm ET



Humans have evolved to have committed social bonds for raising offspring.

Birth-control pills could screw up a woman's ability to sniff out a compatible mate, a new study finds.

While several factors can send a woman swooning, including big brains and brawn, body odor can be critical in the final decision, the researchers say. That's because beneath a woman's flowery fragrance or a guy's musk the body sends out aromatic molecules that indicate genetic compatibility.

Major histocompatibility complex (MHC) genes are involved in immune response and other functions, and the best mates are those that have different MHC smells than you. The new study reveals, however, that when women are on the pill they prefer guys with matching MHC odors.

MHC genes churn out substances that tell the body whether a cell is a native or an invader. When individuals with different MHC genes mate, their offspring's immune systems can recognize a broader range of foreign cells, making them more fit.

Past studies have suggested couples with dissimilar MHC genes are more satisfied and more likely to be faithful to a mate. And the opposite is also true with matching-MHC couples showing less satisfaction and more wandering eyes.

"Not only could MHC-similarity in couples lead to fertility problems," said lead researcher Stewart Craig Roberts, an evolutionary psychologist at the University of Newcastle in England, "but it could ultimately lead to the breakdown of relationships when women stop using the contraceptive pill, as odor perception plays a significant role in maintaining attraction to partners."

Sexy scents

The study involved about 100 women, aged 18 to 35, who chose which of six male body-odor samples they preferred. They were tested at the start of the study when none of the participants were taking contraceptive pills and three months later after 40 of the women had started taking the pill more than two months prior.

For the non-pill users, results didn't show a significant preference for similar or dissimilar MHC odors. When women started taking birth control, their odor preferences changed. These women were much more likely than non-pill users to prefer MHC-similar odors.

"The results showed that the preferences of women who began using the contraceptive pill shifted towards men with genetically similar odors," Roberts said.

Pregnant state

Based on the work by Claus Wedekind, a University of Lausanne researcher who performed similar studies in the 1990s, Roberts suggests a likely reason for the pill's effect on a woman's odor preferences. The pill puts a woman's body into a hormonally pregnant state (the reason she doesn't ovulate), and during that time there would be no reason to seek out a mate.

"When women are pregnant there's no selection pressure, evolutionarily speaking, for having a preference for genetically dissimilar odors," Roberts said. "And if there is any pressure at all it would be towards relatives, who would be more genetically similar, because the relatives would help those individuals rear the baby."

So the pill puts a woman's body into a post-mating state, even though she might be still in the game.

"The pill is in effect mirroring a natural shift but at an inappropriate time," Roberts told *LiveScience*.

The results are detailed in the current issue of the journal *Proceedings of the Royal Society B: Biological Sciences*.