

HUMAN PHEROMONES AND SEXUAL ATTRACTCION

Sexual attraction is commonly mistaken for something that is strictly visual, but what may not be widely known is that there are many other biological factors that contribute to sexual attraction. Pheromones and olfactory communication are quite common amongst the animal population and the insect world. One example that comes to mind is that of the butterfly, *Bombyx Mori*. The female butterfly produces a pheromone, Bombykol, in the odour glands of the abdomen, the male butterfly detects this sexual attractant with sensory cells located on the antennae. This helps the male butterfly locate his female mate with ease. Several studies have also indicated that pheromones have a significant role in mammalian social behavior, but one wonders if that accounts for humans as well. For many years, the human sense of smell has been greatly underestimated and humans have been considered primary “optical animals” with advanced power of sight and an underdeveloped sense of smell. In recent years, this belief has been revised. Recent studies have shown that humans do indeed use olfactory communication and can perceive pheromones, which can influence behavioral and reproductive biology. This can also impact human sexual attraction and mate choice.

Pheromones are referred to as ectohormones, which are chemical messengers that are secreted into the environment by the body that may trigger a physiological or behavioral response from another individual of the same species. Pheromones are broken down into two categories: Signal pheromones, which have a short-term effect on behavioral changes and function as an attractant or repellent, and Primer pheromones, having longer effects on behavioral changes, and activate the hypothalamus-pituitary-adrenal axis. Primer

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hormones trigger the secretion of GnRH (gonadotropin hormone-releasing hormone) from the hypothalamus and then triggers the release of gonadotropins from the pituitary gland. These gonadotropins stimulate the secretion of gonadal hormone, the follicle maturation of the ovaries in females, and the testosterone and sperm production in males. Pheromones have four functions: same sex attractants, same sex repellents, mother- infant bonding, and menstrual cycle balance. The main producers of human pheromones are the apocrine glands that are located in the pubic and axillae region. Apocrine glands develop in the embryo and become functional only during puberty.

There is still a lot of skepticism around the idea that humans are capable of detecting pheromones because the Vomeronasal Organ (VNO), also referred to “Jacobson’s Organ” is not quite discernable in humans. This is the neurosensory system which all terrestrial mammals use to detect pheromones. Another argument is that because the apocrine glands are the main producers of pheromones in humans, and are located mainly in the axilla, areola, labia majora, circumanal region, the forehead in between the eyes, and the sides of the nose nearest the lips, the earlobes and the belly button, which are also areas that are conveniently located in areas associated with intimate social and sexual contact. This would make the evidence difficult to differentiate between the effect of pheromones on social sexual behaviors or that of sexual attraction to the erogenous zones of the body. There is also the interesting fact that most pheromones are completely undetectable by the five senses. Despite these arguments, there have been studies to prove the legitimate role in human reproduction and social sexual behaviors.

In one study Bruce J. Ellis and Judy Garber showed a study that demonstrated that girls in stepfather- present homes experienced faster puberty than young girls in single-

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mother homes. The younger the daughter when the new male arrived, the faster the puberty maturation. The same study was conducted with mice and reported the same phenomenon in 1971 by J.G Vandenberg et Al. This study showed an early activation of the first estrous cycle in prepubertal female mice occurs as a result of exposure to a sexually mature male mouse, which was named the Vandenberg Effect. The two studies that show the strongest evidence of pheromone influence on sociosexual behavior are that of Winifred B. Cutler and Norma L. McCoy. Both studies employed double-blind, placebo-controlled methods and focused on effects of synthetic pheromones on self-reported social sexual behaviors in young women and men. The first study thirty-eight male volunteers recorded the occurrences of six social sexual behaviors petting, affection/ kissing, formal dates, informal dates, sleeping next to a partner, sexual intercourse, and masturbation over a two-week baseline period. Over the next six weeks the volunteers kept the same records while daily applying a male pheromone or a controlled substance that had been added into their aftershave. The group of men that were exposed to the pheromone showed an increase of fifty eight percent sexual intercourse and forty one percent sleeping next to the romantic partner from the beginning compared to the placebo group with only nineteen percent and nine percent increase. In the second study, thirty-six female volunteers recorded the same six social sexual behaviors over a two-week baseline. Over the next six weeks they either applied a synthetic female pheromone or a controlled substance through their perfume daily. The female group exposed to the pheromone reported an increase in sexual intercourse, sleeping next to a partner, formal dates, petting end affection. This test later evolved and added a female's menstrual cycle period. After this revision, women in the Pheromone group showed a seventy four percent increase in sexual intercourse compared

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to the twenty three percent reported in the placebo group. These two tests show the effects of synthetic pheromones on sexual attractiveness. The evidence from the two studies indicate that social sexual behaviors increased in male and females who wear pheromones compared to the baseline.

In conclusion, we can learn from these recent studies on pheromones to make our own deduction on how man being only an optical animal must be revised. From the afore mentioned experiments we have learned that social sexual interactions are affected by pheromones. Pheromones have the potential to influence human behavior and physiology, whether it be our menstrual cycle, our affection towards our partner, or our sexual attraction towards the opposite sex. We are unconsciously being influenced by olfactory communication. The next time we see someone attractive on the street, there may be more at play than just our eyes.