Orgasm (primates)

JULIE A. TEICHROEB
Duke University, Durham, NC, United States

The first intensive studies of orgasmic responses in men and women were done by William Masters and Virginia Johnson (1966) and published in their book *Human Sexual Response*. They described orgasm in both sexes as occurring in four stages: (1) excitement, (2) plateau, (3) orgasm, and (4) resolution. For males, in the excitement phase, nipple erection and tumescence occur, involuntary or voluntary muscle spasms may be seen, the rectum contracts, the scrotum integument tenses and thickens, the testes elevate, and the penis achieves full vasodistention. In the plateau phase, men may flush over the chest, neck, face, and forehead, involuntary and voluntary muscle spasms occur, the rectum again contracts, the testes elevate further, hyperventilation occurs, the heart rate increases, the glans of the penis may change color, and minor involuntary vasocongestive increases in diameter occur in the penis as the orgasmic phase approaches. Men ejaculate in the orgasm phase when recurring contractions of the sphincter urethrae, bulbospongiosus, ischiocavernosus, and transverse superficial and deep perineal muscles force the seminal fluid from the urethra. During the orgasm phase the rectal sphincter also contracts in regular patterns, hyperventilation occurs, and heart rate is at its maximum. Perspiration, especially on the palms of the hands and the soles of the feet, may increase immediately after ejaculation. Finally, during resolution, there is a slow detumescense of the penis, the scrotal integument relaxes, the testes descend, the sex flush disappears, and breathing returns to a pre-aroused state. Though Masters and Johnson equated male orgasm with ejaculation, there is evidence that men can experience an orgasmic response without ejaculation (a dry orgasm).

For females, greater variability has been found in the orgasmic response compared with males. Masters and Johnson and others found that during the excitement phase the vagina becomes lubricated, engorged, rises in temperature, and may change in color. The shaft of the clitoris becomes larger, the major labia and minor labia become engorged, rise in temperature, and may change in color. The perineum also goes through a color change. The cervix will rise and the uterus will pull up. Changes also occur to the breasts in the excitement phase. The nipples become erect, the areolae become engorged, and the breasts go through vasocongestion. There is also a rise in blood pressure, an increase in heart rate, a decrease in skin resistance, and increase in skin conductance. In the plateau phase, the vagina will constrict, the clitoris retracts, the perineum tightens, the breasts become flushed, and blood pressure and heart rate again increase. Women will also begin to hyperventilate in this phase. During the actual orgasm phase, the vagina begins to contract and blood volume decreases. The perineum becomes elevated, the uterus contracts, and the sphincter in the rectum contracts. Blood pressure and heart rate again increase and hyperventilation occurs. In the final resolution phase, the vagina, clitoris, and major labia and minor labia go through detumescence and their color returns to a pre-aroused state. The cervix gapes and there is uterine suction of sperm. The perineum and the breasts return to their pre-aroused states, though hyperventilation may still be occurring.

While male orgasm and the physical release of semen can be neatly tied to reproduction, female orgasm has evoked much more argument and debate in academic circles. In early literature, female orgasm was argued to be a unique ability among humans and was not thought to occur among nonhuman primates. In other words, female orgasm was ascribed to the cultural realm, rather than the natural one, and was identified with nonreproductive sexuality. Some argued that orgasm in females was not evolutionarily selected for but exists instead as a by-product of the existence of male orgasm (Symons 1979). Most women attain orgasm through clitoral stimulation rather than through vaginal intercourse, and the clitoris and the penis have a common embryological origin. In addition, female orgasm

The International Encyclopedia of Human Sexuality, First Edition. Edited by Patricia Whelehan and Anne Bolin.

is not necessary for reproduction, since women can ovulate and conceive without it. The view that female orgasm was not selected for was rejected by feminists because it implied that female sexuality was incidental and deficient relative to male sexuality. Female orgasm was seen instead by feminists as a behavioral reward for the adaptiveness of female promiscuity (Blaffer Hrdy 1981). By having multiple sexual partners, females can confuse paternity, protecting their infants from infanticide and potentially attaining resources from several putative sires. Though the data available regarding sexual responses in nonhuman primates are still limited, it became clear in the late 1960s and early 1970s that orgasmic responses in females occur in at least some nonhuman primate species. There is also evidence that several aspects of female orgasm may have selective functions. Perivaginal muscular contractions, uterine suction, and reflex ovulation all help to improve the chances of the female conceiving and may function in female choice. Indeed, in mammals the orgasmic response in females seems to massage the penis, stimulating orgasm and ejaculation in males. Therefore, even though females can become pregnant without achieving an orgasm, the orgasmic response of females may actually act as a mechanism to ensure that preferred males have a higher probability of fertilizing the egg than nonpreferred males (Baker and Bellis 1993). Female orgasm may also function to increase the emotional bonding felt with certain high-quality males over others. Indeed, greater orgasm frequency is reported for women after intercourse with high-quality males (e.g., men with symmetrical features or those with greater wealth) compared with low-quality males. Nevertheless, the debate and arguments regarding whether or not female orgasm is adaptive are far from over.

SEE ALSO: Anatomy, Female; Anatomy, Male; Ejaculation, Female; Human Sexual Response: Biological Perspectives; Human Sexual Response: Cultural Perspectives

REFERENCES

Baker, Robin R., and Mark Bellis. 1993. "Human Sperm Competition: Ejaculate Manipulation by Females and a Function for Female Orgasm." *Animal Behaviour*, 46: 887–909.

Blaffer Hrdy, Sarah. 1981. *The Woman that Never Evolved*. Cambridge, MA: Harvard University Press.

Masters, William H., and Johnson, Virginia E. 1966. *Human Sexual Response*. Boston: Little, Brown & Co.

Symons, Donald. 1979. *The Evolution of Human Sexuality*. New York: Oxford University Press.

FURTHER READINGS

Allen, Mel L., and William B. Lemmon. 1981. "Orgasm in Female Primates." *American Journal of Primatology*, 1: 15–34.

Bosley, Jocelyn. 2010. "From Monkey Facts to Human Ideologies: Theorizing Female Orgasm in Human and Nonhuman Primates, 1967–1983." *Signs*, 35: 647–671.

Lloyd, Elisabeth A. 2005. *The Case of the Female Orgasm: Bias in the Science of Evolution*. Cambridge, MA: Harvard University Press.