Sex as Bonding Mechanisms

Diana Fleischman
University of Portsmouth, Portsmouth, UK

Synonyms

Affiliation and sexual behavior; Affiliation and sexuality

Definition

The way in which sexual behavior promotes the formation and maintenance of social relationships

Introduction

Sexual behavior is the means to reproductive success, the currency of evolution. Sexual behavior is promoted by sexual pleasure and orgasm; both of these, in behaviorist terms, are unconditioned stimuli that reinforce behavior (Fleischman 2016). Sexual pleasure and orgasm increase the positive associations of an individual towards a specific conspecific. In species that care for offspring, sexual pleasure facilitates close bonds and cooperation to care for offspring. In species where only one parent cares for offspring and in species that do not pair bond, sexual pleasure facilitates repeat copulations with a partner who is more likely to choose them compared with unfamiliar others. Pair-bonded species may develop longer-term preferences than more promiscuous species (Coria-Avila et al. 2016).

Biological Mechanisms of Bonding

Sexual behavior facilitates pair bonds through a few different mechanisms; these have mostly been extrapolated from work on nonhuman animals. Some of the major facilitators of sexual bonding are dopamine, oxytocin, and vasopressin. In species of rodents like rats and mice as well as the monogamous Prairie Vole, it has been found that oxytocin and vasopressin are necessary for developing partner preferences (Young and Wang 2004). In humans, oxytocin and vasopressin are shown to be elevated during sex and orgasm in the blood of women and men, respectively (Young and Wang 2004). In women, oxytocin levels during sex have been shown to be associated with positive affect and thus also implicated in improved sexual bonding (Meston and Frohlich 2000). Dopamine is also implicated in the reward circuitry around sexual behavior and pair bonds and may be maintained by partner proximity showing reinforcing properties through previous sexual behavior.
Human Social Bonding Facilitated Through Sexual Behavior

Sexual behavior is inherently reinforcing because of its link to reproductive success, but this pleasure has been expected to reinforce other kinds of social bonds. In nonhuman primates, same-sex sexual behavior is not uncommon and much is thought to be affiliative (Vasey 1995). For example, female bonobos often have sex with one another and the bonds forged in this way allow them to form alliances to challenge larger stronger males (Vasey 1995). In humans, same-sex sexual behavior or homoerotic behavior may be used to promote affiliation. Progesterone, a hormone associated with affiliation, is associated with greater self-reported desire to engage with others of the same sex, and men who are primed with affiliation related words are more likely to report wanting to engage in homoerotic behavior, but especially when male subjects had higher salivary progesterone (Fleischman et al. 2015). Women are more likely to be bisexual then men and this may have evolved to promote alloparenting, sharing attention, and resources in caring for offspring (Kuhle and Radtke 2013). Similarly, men may have evolved the propensity for same sex behavior for the purposes of affiliation (Kirkpatrick 2000). The human propensity to engage sexually with those of the opposite sex, even when there is no possibility of reproduction, may also have the function of promoting and maintaining adaptive social bonds (Fleischman 2016).

Conclusion

Sexual behavior has a number of neurobiological correlates that show evidence for design in the service of forming and maintaining social bonds such as oxytocin, vasopressin, and dopamine. Sexual behavior has rewarding properties that reinforce bonds between people of the opposite sex, often in the service of caring for offspring, but also can reinforce other kinds of social relationships.

References


