

Steve Gangestad (in the Sexual Signaling Field)

Synonyms

Intra-sexual signaling. Handicap hypothesis. Hard to fake signaling.

Definition

Sexual signaling refers to the ways that members of one sex signal their mate quality to members of the opposite sex.

Introduction

Distinguished Professor, Evolutionary-Developmental Area Head University of New Mexico

Steve Gangestad is a psychologist at UNM, where he is best known for his work on evolution and development using quantitative methods. For many years he has been working with collaborators—notably Randy Thornhill—on the question of whether, in humans, female estrus is (as some scholars aver) truly lost. Typically, primates advertise their fertile phase through conspicuous displays. Humans do not do this. However, Gangestad has argued that a raft of behaviors indicate that estrus is concealed in humans rather than lost. This implies that there are two distinct types of sexual behavior in women. The first, during the fertile phase, and the second—extended sexuality—during the non-fertile phase. Humans are not unique in having sex outside of fertile phases (bonobos and cetaceans also do this) and Gangestad's work aims to root the study of human sexuality within the general phylogeny of vertebrates. (1)

Signals and Noise

For organisms to be able to transmit mate quality to potential partners in ways that might fall under selection (intra-sexual selection) it must be a hard to fake signal. There are a variety of ways for members of a species to honestly signal their quality to potential mates. Using peer-report of attractive qualities in others, rather than the more usual self-report, Gangestad (2) showed that sexually popular males are physically attractive, seen as trend-setters, and outgoing. Attractiveness in females also emphasized physical attraction and trend-setting. Surprisingly, earning potential did not feature in this population as a marker of attraction.

While all cultures value facial attractiveness it is not immediately obvious why this should be. If such attraction were an entirely capricious thing then it would imply that such qualities do not reliably covary with any underlying features in potential mates. This is unlikely. Gangestad's work has shown repeatedly that in general, healthy mates are preferred and indicators of such things (such as clear skin and eyes and lustrous hair are universally valued (3). Facial symmetry also seems to be a marker of genetic quality given that such symmetry reliably indicated resistance to developmental pathogens that would have resulted in asymmetry over evolved time although the support for this hypothesis is more mixed.

Smell also indicates partner quality, perhaps in terms of compatibility. While human males seem largely unaware of the importance of this marker, human females regularly report that partner general attractiveness and partner smell covary (4). Indeed, an attractive partner smell was the leading predictor of orgasmic response in females—which may contribute to fertility—(4, 5). It is, however, unclear as yet as to whether attractiveness in partner smell results from an honest signal of general quality (e.g. that attractive scent covaries with symmetry) or signals specific major histocompatibility between the sexual partners. That the incidence of female

orgasm seems to increase with extra-pair copulations, lending credence to the view that there is a sperm-selection function at work.

As noted above, a standard textbook view has been that human female primates are unique in having concealed ovulation. One of the figures chiefly responsible for revising this view has been Steve Gangestad. As he has shown in a variety of ways, it is more appropriate to think of ovulation as being guarded rather than completely covert. Not only does women's behavior become more overtly sexual and assertive during their fertile phase, but their partners seem alert to this on some level, increasing their levels of mate-guarding behaviors (6, 7).

Conclusion

It is trivially true to say that humans are a unique species—uniqueness is built into the definition of a species. However, some mistake uniqueness for immunity to the normal rules of natural and sexual selection. Gangestad (and others) work on sexual signaling shows that humans are complex sexual strategists—just like any sexually reproducing species. Furthermore, he has shown that attention to evolutionary theory generates a range of falsifiable hypotheses about human behavior. For example, it is still an open question whether general symmetry (indicating developmental stability and hence immunocompetence) or specific markers of histocompatibility are being signaled in terms of mate preference. This alone gives the lie to oft-repeated canard that evolutionary hypotheses are fundamentally untestable. On the contrary—humans are rapidly being shown to have a range of complex strategic responses to mate selection utterly in keeping with their evolved natures.

Cross References:

Mate Retention, Personality and Mate Retention, Infidelity, Sociosexuality, Fluctuating Asymmetry

References

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