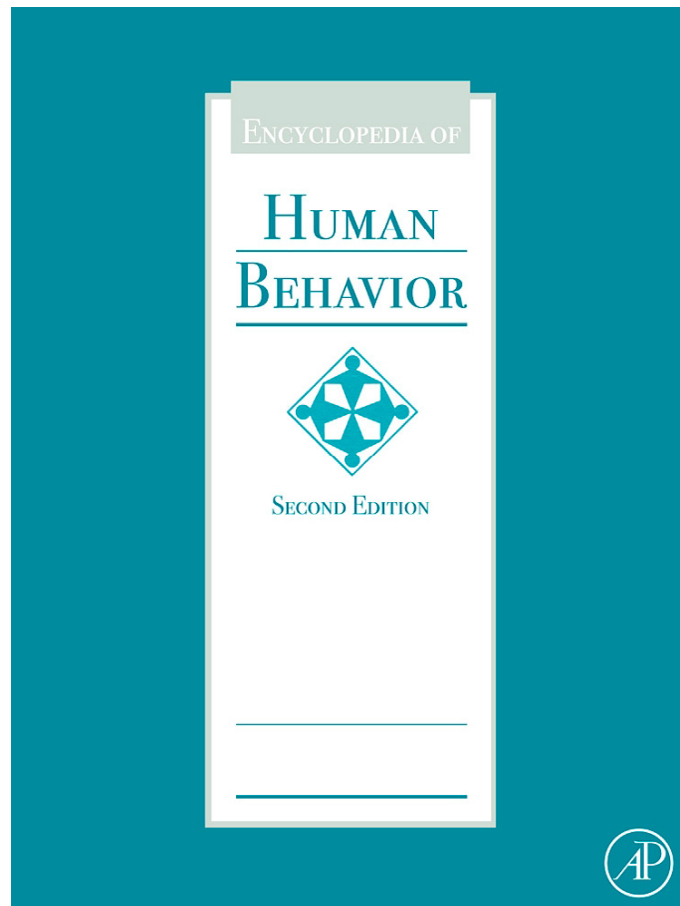


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## Human Mating

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### Glossary

**Allomothering** An arrangement between a collective of females to cooperate in rearing their offspring.

**Estradiol** A hormone that co-occurs with ovulation.

**Fecundity cues** These are cues that signal an individual is likely to bear numerous offspring.

**Heuristic** A decision shortcut that is best described as a 'rule of thumb.'

**Life history theory** A mid-level evolutionary theory accounting for species-level and individual-level tradeoffs

between the allocation of bioenergetic resources to survival and mating.

**Propinquity** Located near one another.

**Serotonin** A neurotransmitter associated with feelings of bonding, empathy, and happiness.

**Sex ratio** More specifically, the operational sex ratio refers to the ratio of sexually reproducing members of each sex.

**Socioecology** A composite of biological, environmental, and social factors that compose the environment.

### Introduction

What do women want? What do men want? Why do people cheat? Why does sexual harassment and rape occur? Modern answers to these questions come from two paradigms. The sociocultural paradigm argues that because of differing access to economic resources either today or over generations, men and women have different mating psychologies. Specifically, because women have historically had limited access to economic resources, it makes sense for them to acquire such resources through their mates. The other approach is based on evolutionary theory, and posits that men and women differ with respect to unique, recurrent adaptive challenges they faced over evolutionary time. Whereas the sociocultural paradigm tends to be based on cultural norms and proximate factors, an evolutionary approach emphasizes on more ultimate causations, drawing upon theories and findings from biology, anthropology, and ethology. Specifically, humans may have evolved certain psychologies in mating and other domains that enable them to reproduce more successfully. In this article, we focus on the evolutionary perspective, as much of the theoretical developments and empirical findings in human mating have emerged from this perspective in recent years.

### Parental Investment Theory

Parental investment theory enables evolutionary psychologists to formulate hypotheses and make predictions regarding sex differences in mating strategy. According to this theory, the sex that is physiologically required to invest more in offspring evolves to be more choosy regarding mates, because a mating error (mating with a low-quality or noninvesting partner) is more costly to that sex. In other words, it is in the reproductive interest of the higher-investing sex (actually, their genes) to avoid mating with low-quality mates. In contrast, it is in the reproductive interest of the non- or lesser-investing sex to be intrasexually competitive in order to gain access to members of the more valuable sex. In the vast majority of mammals,

females are physiologically required to invest more heavily on their offspring; thus, they have evolved to be the choosier sex.

For humans, sexual activity can lead a woman to incur several months of pregnancy and (in ancestral times, when mating psychologies evolved) years of nursing. Although human males often invest in their children, a copulation is the extent of their physiological obligation to parenting. Thus, relative to one another, women, who have to invest much more, have evolved to prefer long-term, committed relationships with high quality and resourceful partners, whereas men have evolved to prefer short-term, casual sexual relationships with numerous fertile partners (those who, upon having sex, are likely to become pregnant).

Consistent with this theory, research has shown that women, more than men, try to slow the speed at which relationships escalate to sex, have a lessened willingness to engage in casual sex, and engage in short-term mating as a way to better access long-term relationships. In contrast, men, who have low costs associated with casual sexual encounters, tend to desire easy and quick access to willing partners, be patrons of adult entertainment (i.e., strippers, prostitutes, and pornography), fall in love quickly (in order to convince partners of their commitment and thus, to induce sexual activity), be aroused by fecundity cues, and be more willing to engage in casual sex.

### Mating Systems

Because human offspring require several years of nurturance and benefit greatly from biparental care, human mating systems tend to be centered around long-term relationships and marriage. The exact form that such relationships take depends on both biological and socioecological constraints that occur both intersexually and intrasexually.

### Marriage and Long-Term Relationships

The sex ratio for each marriage can involve one man and one woman (monogamy), one man and many women (polygyny),

or two or more men with one woman (polyandry). Which form predominates depends on the access that men have to resources. Polyandry tends to occur where resources are difficult to acquire. For instance, in mountain farming communities, resources are scarce – they are extracted from the earth in a labor-intensive manner whereby the collective effort of multiple males are necessary to produce enough resources to sustain a single family. In other words, on their own, men in these communities cannot individually afford a wife and family, so they team up. However, they team up not randomly, but with brothers, who are genetically related. These ecological constraints instigate a situation that, on average, is beneficial to the female, but less than ideal for the individual males.

In contrast, polygyny tends to occur where there is large variance in the amount of resources that men have. Whereas many men are very poor with little or no resources, some are able to accumulate and defend an immense amount. If famines occur, men with plentiful resources would still be able to feed their families, whereas poor men may have no means of keeping their families alive. In such circumstances, wealthy men are able to attract and secure many wives. Indeed, various kings and emperors have each had hundreds of wives and evidence suggests that polygyny has been pervasive throughout human history. In today's societies, mating arrangements seem to follow a form of mild polygamy. That is, most people mate with more than one person throughout their lifetime, but do not commit to more than one person at the same time for a life-long partnership.

Long-term relationships encompass not only marriages but also (at least in modern societies) monogamous dating relationships. In long-term mating contexts, both sexes would be investing heavily in a single partner and any subsequent offspring. As such, it makes sense that each sex would have high standards in mate quality and value traits that denote good long-term potential. Indeed, social and evolutionary psychologists have found that this is the case: for committed, long-term relationship partners, both sexes are very selective. Both large-scale international studies and smaller-scale studies have shown that men and women both want long-term mates who are kind, have a sense of humor, and are intelligent. However, in line with sex differences in what constitutes reproductive value, men value physical attractiveness and youth (because women who are young and physically attractive are likely to be fertile and have many fertile years remaining) in their long-term mates more whereas women place higher value on a potential partner's social status and resources (and thus, ability to invest in potential offspring).

### Short-Term Relationships

Although most people in most societies get married, not all human mating relationships are for the long term. Some individuals mate by engaging in casual sex. Short term, casual sexual relationships have recently been investigated by various researchers. Typically, researchers have focused on the one-night stand. In such relationships, individuals meet and go relatively quickly from zero-acquaintance to the act of sex and then back to zero-acquaintance. There is little promise of future relationship potential. Although relatively rare in actual occurrence, the one-night stand is theoretically

important because, when compared to the committed, long-term relationship, it illustrates key sex differences.

Although men are by no means exclusively interested in this type of relationship, they are much more willing to engage in such behavior than women are. In a noted study that has been replicated numerous times, confederates asked strangers in a campus mall one of three questions: Will you go on a date with me? Will you go back to my apartment with me? Will you go to bed with me? Although half of women and half of men said yes to a date, very few women agreed to going back to a stranger's apartment and not a single woman agreed to the overtly sexual invitation. In contrast, men's likelihood of agreeing increased as the prospect of sexual activity increased (about 75% of men said yes to sex; many of the other 25% apologized or attempted to reschedule).

Women do engage in casual sex behavior, albeit more sparingly and perhaps more strategically. Although women reproductively benefit the most from having a long-term partner who is both genetically fit and who invests plentiful resources, such men tend to be in short supply and to not be monogamous. Thus, women may enact a mixed mating strategy: securing the investment of one man as a long-term partner, but obtaining higher quality genes from another (more physically attractive) man, via sexual affairs. Indeed, an extensive line of research on women's menstrual cycles has found that when they are ovulating (and thus, most likely to conceive), women are most likely to engage in extrapair sex and their psychology seems to be aligned toward attracting extrapair partners. Women who are ovulating tend to be more scantily dressed, more likely to go out without their long-term mate, likely to have more sexual fantasies – but about men other than their primary partner, and may even release a pheromone that increases sexual arousal in men. Moreover, when women are ovulating, their male partners tend to guard them more (e.g., keeping tabs on their whereabouts). Around ovulation, women have a pronounced preference for men with masculine and symmetrical features, who presumably are more genetically fit.

In addition to those playing a mixed mating strategy, women may seek sexual encounters when they are single. Such women tend to be those who have more testosterone and score high on measures of sociosexuality (i.e., willing to have sex without signs of love and commitment), but may also be attempting to secure a long-term relationship partner by casting a wider (sexual) net or to extract immediate resources from a man who lavishly spends money.

### Hybrid Relationships

Whereas long-term, committed relationships (e.g., marriage) and short-term, casual sexual relationships (e.g., one-night stands) represent opposite types of relationships, there are various relationships that are somewhere in between, with elements of each. Such relationships include the booty-call, friends-with-benefits, and swingers. The former two are situations in which individuals with some level of acquaintance engage in sex, but are not committed to each other. Between one-third and one-half of college students report engaging in these types of mateships.

Such relationships can potentially be viewed as market-driven compromises between men's and women's ideal

relationship types. That is, men would prefer to have casual sex with whomever they want, but women are unlikely to provide this. In contrast, women tend to want commitment, but men are not always offering that. Hybrid relationships tend to provide women with access to mates they would be unable to attain as monogamous, fully committed partners. For men, these couplings may provide sexual access for a relatively low level of investment. Thus, in the process of implicit negotiations taking place between individuals in the mating market, each sex gives some ground in order to facilitate a mateship that takes the form of a hybrid relationship.

Another form of compromise between the sexes might be consensual nonmonogamy (CNM). Between 25% and 75% of Americans have reported engaging in extramarital sex, but it is unknown how much of this is cheating and how much is actually consensual. CNM consists of three main types of relationships: swinging, polyamory, and open relationships. Swinging consists of couples who are involved in a serious, romantic relationship (usually marriage), but also engage in some degree of partner-swapping. Polyamory is based on the idea that one can be in love with, and committed to, multiple partners. Open relationships are quite variable and can consist of anything from casual to committed dating with more than one individual. All of these relationships typically involve explicit negotiation. First, both partners discuss whether or not they want to be nonmonogamous and what the terms of their relationship will be. Second, each sex may be motivated to pursue this relationship option to satisfy some of their needs that are not being met in their current relationship. For instance, CNM may provide increased sexual variety (more appealing to men) and the chance to obtain further intimacy (more appealing to women). Scientific understanding of such relationships is still, however, rather limited. Thus, future research is needed to more carefully explore the motives behind these relationships.

## Homosexuality

A common criticism of evolutionary psychology is that it only explains heterosexual behavior. From noteworthy reports by Janus and Kinsey, we know that up to 10% of men and 5% of women report being homosexual; these rates have remained reasonably stable over the last 60 years. Furthermore, twin studies have indicated that homosexuality is up to 50% heritable. Superficially, being homosexual should decrease one's inclusive (reproductive) fitness because the person does not mate. Thus, it does not seem to make sense how homosexuality persists. Evolutionary psychologists suggest three adaptive mechanisms under which homosexuality can be maintained in a population. First, it is possible the relatively low rates of homosexuality in either sex are detecting random variation in sexuality – mutations occurring at constant rates over time. Second, homosexuals, although not reproducing themselves, might increase their fitness indirectly by helping their nieces and nephews; a prediction not well-supported, however. Third, it could be that homosexuality, especially in females, is a conditional mating strategy. Research on conditional mating strategies describes how individuals adjust their mating strategies as result of being unable to satisfy their fitness interests.

If there is limited access to quality men in a population a woman may benefit from allomothering. Sex, in this case, would confer upon two females the important function of bonding as it plays in Bonobos. There is evidence in sea-birds that two females will pair-up to rear an offspring together when there are limited males. In this case, male homosexuality could either be a by-product of the flexibility or erotic plasticity present in females, or have alternative nonreproductive functions (e.g., establishing dominance, releasing sexual aggression).

Whatever the mechanisms maintaining homosexuality in the population, sexual orientation may be separate from other elements of a person's psychology. For instance, even though many homosexual men have hundreds more sexual partners than typical heterosexual men do, this is not because of having a greater sex drive per se. Rather, homosexual men have similar preferences for casual sex with young and attractive mates; however, because they serve as each other's mates, they do not encounter the more selective constraints imposed by women. Relative to men, women have a higher need for emotional intimacy and lower needs for sexual variety, and these aspects tend to be characteristic of homosexual female couples. Implicitly, heterosexual couples must reach an agreement in order to have a relationship. Such negotiation may be less applicable or contentious among homosexual relationships wherein both sexes share preferences and psychological dispositions regarding sexual interactions.

## Clash of the Sexes

Once individuals have implicitly negotiated their way into relationships, the sexes may also come into conflict once such relationships are under way. In this section, we review research on infidelity, how men and women conflict on inferring sexual intent, and aggression in relationship contexts (i.e., sexual harassment and rape). All three of these may be manifestations of a breakdown of the implicit negotiation between sexes.

## Infidelity

Perhaps the most well-known manifestation of intersexual conflict is the case of infidelity. While marriage occurs in all known cultures, rates of extramarital affairs hover between 25% and 75% in reports by Hite and Kinsey. In cross-cultural research, it appears in as many as 160 cultures and is the primary reason for divorce. Why might people cheat? Popular media portrays cheating as the acting out of juvenile fantasies or the result of some psychological impairment such as low self-esteem or a dysfunctional parent-offspring relationship. Although these are possible explanations, there are also more systematic factors to consider.

Proximate factors abound mostly in personality traits. The most popular taxonomy of personality is the Big Five personality traits – extraversion, emotional stability, conscientiousness, and openness. The Big Five provide a cross-culturally replicated, methodologically robust, and highly predictive means of understanding individuals. Low agreeableness and conscientiousness have been implicated in infidelity in small and large-scale international studies. As would be expected,

individuals' sociosexuality – the degree to which individuals find casual sex acceptable and their casual sexual behaviors – is also associated with rates of infidelity.

Unfortunately, most of this work tends to be descriptive. Some new work that has a strong theoretical backing is based on a mid-level theory called Life History Theory. This theory suggests those who have antisocial personality traits like the Dark Triad – narcissism, psychopathy, and Machiavellianism – may enact an opportunistic life strategies. The Dark Triad appear to be associated with (1) a short-term mating disposition, (2) a rejection of long-term mating, (3) a high number of sex partners in one's lifetime, (4) increased rates of mate defection, and (5) generally, a *fast* life strategy. Effectively, these personality traits predispose individuals to have a 'take the money and run' life strategy and a 'hit and run' mating strategy. Although these traits are higher in men than in women because men suffer fewer costs by inhabiting a *fast* life strategy than women do, women who are high on these traits may also benefit from short-term matings enacted through infidelity.

Numerous reasons have been proposed for why people may engage in some form of short-term mating. All of them suggest a more strategic approach to short-term mating in women than in men. That is, men engage in short-term mating as a function of their generalized disposition toward low investment sex. Women, who may pay a higher penalty for infidelity, may engage in infidelity for more specific reasons. For example, a woman might be unfaithful (1) to test her value on the market, (2) to motivate her partner, (3) to get good genes from the partner with whom she cheats, (4) to access greater resources, (5) for more protection for her and her offspring, and perhaps more. Whatever the reason may be, personality traits may predispose individuals to pursue certain fitness-relevant goals on different time-scales.

However, the primary limitation of most work on infidelity we have discussed thus far is based on self-report data; the problems of which have been clear in psychology since at least 1978. Modern research has begun to integrate non-self-report measures in the form of physiological and hormonal assays; data that tends to pack more of a punch. This is because it is rather hard to argue that a biological/physiological factor could be the result of some social role or learned behavior. As far as we know, individuals have no control of or access to their hormones. Therefore, findings links between hormones and infidelity provides strong evidence consistent with an evolutionary approach. In men, greater levels of testosterone and lower level of serotonin are associated with greater numbers of sex partners and a greater likelihood of committing infidelity. In particular, men who have high testosterone and low levels of serotonin are selected by women as short-term partners and, therefore, are able to pursue their preferred mating strategy.

When women are ovulating they experience high levels of estradiol and they report a large series of attitudes and commit behaviors that facilitate committing infidelity. Ovulation is linked to (1) conception rates, (2) preferences for the odor of men who are high in testosterone, more masculine faces, more masculine bodies, lower voice pitch, and men who display social presence and direct intrasexual competitiveness, (3) more flamboyant dancing, (4) a tendency to wear more revealing clothing, (5) self-reports of increased willingness to flirt, kiss, date, have a one-stand, and a serious affair with

another man, and (6) tendency to go out with their friends instead of their partner. Estradiol also seems to make women more attractive in terms of a lower waist-to-hip ratio and lower levels of fluctuating asymmetry (the degree to which a person deviates from a bilaterally symmetrical appearance). Women have a generally slower mating disposition, but during ovulation women may benefit enough from short-term sexual interactions to risk infidelity.

#### ***Adaptive functions of infidelity and reactions to infidelity***

From an evolutionary perspective, infidelity signals the diversion of important reproductive resources. For a woman, an unfaithful partner may be investing resources in another woman. This is a particular concern for women given the high degree of investment they are saddled with for their offspring. As we noted above, women are attuned to not only detect a man's willingness to commit but to also slow down his rate of access to sex until he shows clear signs of investment potential and commitment. Consistent with these inclinations, women tend to be more bothered by emotional infidelity than sexual infidelity.

In contrast, sexual infidelity poses a more serious reproductive problem for men than women. Sexual infidelity from a female partner greatly increases the level of paternity uncertainty. Because men cannot be certain that any children are theirs, they may have evolved to be attuned to cues of an unfaithful partner. Ancestral men who were indifferent to sexual infidelity risked investing in other men's children and tended not to leave descendants. Indeed, men are more bothered by sexual infidelity than emotional infidelity. Stronger female reactions to potential emotional infidelity and stronger male reactions to potential sexual infidelity are generally consistent across populations, techniques, and researchers.

However, it is noteworthy that there is at least some work suggesting that men and women should not differ in the degree to which these types of infidelity bother them because (1) both sexes feel that one type of infidelity will lead to the other type and (2) individuals in the Environment of Evolutionary Adaptedness (the time during human history when heritable psychologies, such as ones for jealousy, would have arisen) would not necessarily be aware of the direct connection between sexual relations with a particular man and the birth of a child given the 9 month gestational delay between sex and childbirth. Some cultures still believe in partible paternity – that is, the idea that more than one father can contribute biological materials to a child, and share in paternal responsibility. This idea of paternity might be beneficial to females, and could mean that human mating is more complex than previously assumed.

Moreover, there is a battery of behavioral albeit indirect evidence to show that men are especially attuned to sexual infidelity. For instance, step-children and children who do not resemble the male parent are at much greater risk of being neglected and abused. Children living with one genetic and one step-parent are 40 times more likely to be physically abused. Preschool aged stepchildren are 40–100 times more likely to be killed. Not only are men more likely to endanger the life of stepchildren and those who do not physically resemble them, they may commit partner-directed violence. Men who do not perceive physical resemblance to their children are more likely to severely beat their wives. Evidence also suggests that

when dating a particularly attractive woman, men may actually aggress toward the woman and the woman's extra-pair partner in response to infidelity. However, these problems do not just trigger one's response. Indeed, when a man is mated with a highly attractive, youthful, and potentially fertile mate he may be more willing to tolerate cuckoldry. Generally, men who tend to be of lower value on the mating market than their partners are more likely to engage in mate guarding and mate retention. As an enticement for their partners to stay in the relationship, these men may dole out gifts and affection to compensate for shortcomings, including low physical attractiveness. Whether it takes the form of mate retention, mate guarding, or aggression, males seem to have evolved mechanisms in response to the problems of female infidelity.

Although jealousy is the most well studied emotional response to ongoing or potential infidelity, depression, anger, and self-reproach are other large categories of emotional reactions to infidelity. These systems seem to be finely tuned to the nature of the infidelity. Individuals, upon learning of infidelity, attempt to gauge the nature of it by probing for more information in order to decide what to do about the apparent violation. Emotions give people heuristic-based information about how to proceed. In cases where individuals had an ongoing relationship with their infidelity partner, this is likely to cause more distress compared to a single episode. Indeed, women are more likely than men to forgive a single sexual transgression.

### Sex Differences in Inferring Sexual Intent

How does one know if someone else wants to have sex? Do men and women have a predisposition to make judgments that may serve their fitness interests? In a word, yes. Studies by social and evolutionary psychologists indicate women underestimate the degree to which a man will commit to them and men overestimate the degree to which a female wants to have sex with them. Many decisions effectively pit a Type I error (i.e., falsely assuming a particular state exists) against a Type II error (i.e., falsely denying the existence of that state), whereby one error is costlier than the other. For situations of reproductive consequence that recurrently presented themselves in ancestral environments, humans should have evolved a systematic bias to make decisions that favor the less costly error. For males, a Type II error – inferring a lack of sexual interest when it is actually present – would be more costly because female sex partners are in short supply. For a woman, a Type II error, falsely interpreting that a man's commitment is insufficient, and thus requiring more evidence of commitment before engaging in sexual relations is not a costly error: it encourages displays of quality, greater investment, and more commitment from would-be partners.

Research demonstrates men are not simply projecting their own views onto their perceptions of sexual intent in opposite-sex others – a man's perceptions of women's sexual intent is not the same for a potential mate as it is for his sister. This suggests men are not simply ascribing greater sexual intent to all women; rather, only to those who constitute potential partners. Indeed, self-reports suggest women who are friendly have experienced men's tendency to think that those women are sexually interested. In short, this causes conflict between the sexes because of evolved cognitive biases in how they interpret the actions

of those with whom they could mate. These biases are the result of recurrent asymmetries in the costs associated with decisions in the mating contexts. Here we discuss a number of ways in which this misunderstanding manifests itself.

### Sexual Harassment

In the modern workplace, men and women spend much time coming into contact with each other and getting acquainted. As a result of this propinquity, the workplace is an environment that may be especially conducive to the development of potential romantic relationships. However, this also means it is a setting in which conflicts in mating strategies may readily occur. Up to 90% of women report having been sexually harassed at work, with about 10,000 cases filed in the United States in the last 20 years costing \$48 million in victim-compensation. By today's standards, sexual harassment in the United States includes staring in a sexually suggestive manner; making offensive remarks about looks, clothing, or body parts; touching (e.g., patting, pinching, or intentional brushing against another's body); telling sexual jokes or displaying sexually suggestive posters; making sexual gestures; and sending, forwarding, or soliciting sexually suggestive letters, notes, emails, or images. Consistent with the divergence in reproductive strategies, the large majority of complainants are female, although the percentage of male complainants is slowly increasing.

From an evolutionary perspective, sexual harassment occurs when people in the workplace experience a conflict between the mating strategy they desire to utilize and what is allowed by other persons or contextual factors. Because men are (1) more eager to engage in sex with others and (2) likely to overestimate sexual interest in target females, they may pursue women who do not want them or in work contexts where it is deemed by societal standards to be inappropriate. Those who are sexually harassed most commonly are women who have the most reproductive value vis-à-vis being youthful and attractive. In addition, individuals perceive it is these women who pose the greatest threat for filing sexual harassment claims. Laws governing sexual harassment discourage and punish the perpetrator, typically men, from pursuing an eager sexual strategy and acting upon potential overperceptions of sexual interest.

Importantly, the definition of sexual harassment suggests sexual attention may not be considered harassment if it is welcome. In other words, if no strategic interference has taken place and both parties are explicitly or implicitly amenable to potential sexual relations, then no one will be motivated to seek legal redress, and they may not be awarded any compensation if they do. Such a distinction appears to be reflected in perceptions of sexual harassment. In short, the interpretation of sexual harassment is a function of the degree to which the target of the advance is attracted to the advancer. Advances from men who are viewed as having high value in the mating market vis-à-vis being successful and physically attractive are less likely to be seen as harassment.

### Rape

Sexual harassment, although expensive and even psychologically troubling, is relatively benign compared to perhaps the

most drastic result of the failed negotiation of the sexes in mating: rape. A note of caution to the reader: evolutionary accounts of rape by no means justify the behavior. Explaining phenomena by no means excuses it. There are numerous reasons to be appalled by this behavior, but one must not allow moral judgments to interfere with one's ability to examine a phenomenon dispassionately as scientists strive to do. Nevertheless, because this is such a contentious topic we delineate the research about this topic in detail.

Rape in humans is a subject of intense study, with the number of studies on the topic steadily increasing since the 1960s and rates that are fairly consistent around the world. Between about 15% and 50% of females in countries like the United States and New Zealand report some experience with sexual coercion/rape. However, these events seem to most commonly be perpetrated by nonstrangers such as acquaintances, boyfriends, or husbands (80%) and much more rarely by strangers (20%). Thus, studies indicate the majority of sexual coercion occurs not between strangers, but between acquainted individuals who are within a mating context. Therefore, as with sexual harassment, the role of differing mating strategies should be viewed when considering and understanding rape. It is between those who know each other that negotiations can break down, and sexual conflict can occur.

Within an evolutionary psychological framework, some theorists have proposed that rape might be an adaptive, conditional mating strategy. As a result of being unable to get the mates one wants, some men may use rape as a last-ditch solution to solve the adaptive problem of mating. However, this is a rather risky solution given that women, her family, and her friends may have antirape adaptations (e.g., women may have male friends to act as body-guards) and any subsequent offspring may not have two parents or that child may be abused or neglected, thereby decreasing the chances that any resultant offspring will survive. Therefore, while rape might provide some reproductive benefits, the rapist must take into consideration the costs of pursuing this mating strategy. Nevertheless, there may actually be some psychological systems that have evolved to allow men to detect which potential victims would incur fewer of these costs. Some of these psychological adaptations include being able to assess the vulnerability of potential rape targets, a rape mindset that activates when sexual access to consenting partners is not attainable, preferences for young and fertile females, and sexual arousal in response to female resistance to men's sexual advances.

The most direct evidence of rape's potential reproductive benefits comes from pregnancy rates of rape victims. When researchers adjust for contraceptive use, rape-pregnancy rates are near 8%, significantly greater than consensual pregnancy rates of about 3%. The majority of rape pregnancies were also concentrated in the 15–24-year-olds; of the 26 rape pregnancies reported, 21 (81%) occurred in this age range. However, rapists' targeting of reproductively aged women may be a by-product of men's preferences for women within this age range – they are at peak fertility – or some unknown mechanisms to detect ovulation in men. It might be argued that this finding is a by-product of women in this age group being more likely to associate with young men, who are themselves the age group most likely to engage in criminal activities in general. However, when age distributions of rape and murder victims were compared,

murder victims tend to be older than rape victims, and are not concentrated among individuals in their 20s.

The mate deprivation hypothesis has not received much support with respect to its prediction that men who are unable to obtain mates because of low value in the market (e.g., socioeconomic status) are any more likely to commit rape. In fact, men who reported being physically and nonphysically sexually coercive also reported having higher mating success and more sexual experience. Such an account suggests that rape may not be an evolved, condition-dependent mating strategy, but instead, could be a by-product of men's increased sexual desire. However, this may be because men's rape adaptations may be more varied than previously thought. Recent work suggests as many as five domain-specific types of rapists that respond to certain contextual cues to motivate the act of rape: disadvantaged men, specialized rapists, opportunistic rapists, high-mating-effort men, and partner rapists. More research in this area is certainly needed to better understand this phenomenon.

## Summary and Conclusions

Because of fundamental differences in minimum required parental investment, men and women have evolved to ideally prefer different types of relationships. On the one hand, women tend to prefer having long-term relationships with high quality men who commit and invest plentiful resources. On the other hand, men tend to favor having easy sexual access to many fertile women. Because human infants benefit greatly from a long period of biparental care, human mating tends to be centered around long-term, committed relationships. Indeed, some form of marriage, whether monogamy, polygyny, or polyandry – is found in most societies.

Nevertheless, noncommitted sexual relationships are also quite prevalent. For instance, individuals may seek sexual affair partners outside of an ongoing long-term relationship. In particular, around the time of ovulation, women are more open to having sexual affairs with physically attractive men, who may be more genetically fit than their current partner. In addition to mixed mating strategies that involve having long- and short-term relationships at the same time, individuals may engage in hybrid relationships (e.g., booty-calls, friends-with-benefits, and swinging), which tend to be largely sexual but contain at least a minimal level of investment or continuity. Such relationships may effectively represent compromises in the mating market between men's and women's ideally preferred relationships. Sometimes, however, the sexes' opposing interests result in conflict, wherein the pursuit of one's own mating strategies comes at the expense of one's partner's. Specifically, conflicts can take the form of sexual harassment, intimate partner violence, or rape.

In presenting this article on human mating, we have relied on an evolutionary approach to mating psychology. Although not the only perspective on mating, an evolutionary approach has fueled much of the interesting research that has emerged in recent years on mating. It is also the only perspective that is connected to theories of all living things, including biology, anthropology, and ethology. At all levels of human mating, evolutionary theory is informative about the pursuit of sex as well as the battle of the sexes.

**See also:** Evolutionary Psychology; Evolutionary Social Psychology; Mate Selection; Personal Relationships in Everyday Life; Sex Differences.

### Further Reading

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### Relevant Websites

- <http://www.davidbuss.com> – Site for Dr. David Buss.
- <http://www.bradley.edu/academics/las/psy/facstaff/schmitt.shtml> – Site for Dr. David Schmitt.
- <http://www.normli.com> – Site for Dr. Norman Li.
- [http://www.southalabama.edu/psychology/Faculty\\_Jonason.htm](http://www.southalabama.edu/psychology/Faculty_Jonason.htm) – Site for Dr. Peter Jonason.
- <http://info.sciencedirect.com/> – Support site for ScienceDirect.