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An Evolutionary Perspective on Mate Choice and Relationship Initiation

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An Evolutionary Perspective on Mate Choice and Relationship Initiation

DAVID P. SCHMITT

From an evolutionary perspective, animal mate choice and relationship initiation depend in large part on the natural mating system of a species. Mating systems can vary widely both within and across species, and differences in mating systems fundamentally influence the degree of sexual differentiation and population variability in mate choice and courtship-related behavior (Shuster & Wade, 2003). In humans, there are several indications that we have a monogamous mating system. For example, humans are highly altricial—we have prolonged childhoods and rely heavily on extended families throughout our life spans (Alexander & Noonan, 1979). We also appear designed to form romantic pairbonds, having a dedicated neurochemistry of attachment associated with monogamy across mammalian species (Fisher, 1998; Young, 2003). This evidence would suggest humans are designed to choose romantic partners who possess qualities advantageous to a monogamous mating system (e.g., fidelity), and according to sexual selection theory (Darwin, 1871), men and women who displayed cues to qualities such as fidelity would be especially effective at initiating and maintaining romantic relationships.

At the same time, however, humans appear to possess evolved design features associated with multimale or multifemale, or “promiscuous,” mating. For example, humans may possess psychological and physiological adaptations for sperm competition (Baker & Bellis, 1995; Shackelford & LeBlanc, 2001), such as women’s adaptive timing of extrapair copulations (i.e., infidelities; Gangestad & Thornhill, 1998; Haselton & Miller, 2006), men’s specialized expressions of sexual jealousy (Buss, 2000; Schützwohl, 2006), and the physical structure of the human penis serving as a semen displacement device (Gallup et al., 2003). Among men, casual sex with multiple partners is often viewed as desirable (Oliver & Hyde, 1993; Symons & Ellis, 1989), with most men agreeing to have sex with complete strangers when asked in field experiments (Clark & Hatfield, 1989). Patterns of premarital sex, extramarital sex, and mate poaching by both men and women (i.e., adaptive patterns suggesting these are evolved sexual strategies) have been documented across cultures (Broude & Greene, 1976; Schmitt, Alcalay, Allik, et al., 2004).

There is also evidence that humans are designed, at least in part, for polygynous mating. For example, men and women have sexually dimorphic life history traits such as men’s tendencies to be more physically aggressive, to die much earlier, and to physically mature much later than women across all known cultures (Archer & Lloyd, 2002; Kaplan & Gangestad, 2005). Such sex differences are usually not seen among truly monogamous species, especially primates (Alexander, Hoogland, Howard, Noonan, & Sherman, 1979). Moreover, across foraging cultures—the predominantly polygynous cultures in which humans have spent most of our evolutionary history (Brown, 1991; Frayser, 1985; Pasternak, Ember, & Ember, 1997)—there are ethnographically pervasive links among men’s status, polygynous marriage, and reproductive success (Low, 2000;
Turke & Betzig, 1985). In contrast, very few cultures (less than 1%) have polyandrous marriage systems (Broude & Greene, 1976).

**EVOLUTIONARY THEORIES OF MATE CHOICE AND RELATIONSHIP INITIATION**

Evolutionary psychologists tend to reconcile these seemingly contradictory findings by acknowledging that humans, like many other species, are probably designed and adapted for more than one mating strategy (Barash & Lipton, 2001; Mealey, 2000). Specifically, most evolutionary psychologists view humans as coming equipped with specialized mate choice adaptations for both long-term mating (i.e., marriage and extended pairbonding) and short-term mating (i.e., promiscuity and infidelity; see Buss & Schmitt, 1993; Kenrick, Sadalla, Groth, & Trost, 1990). Not all people try to initiate both types of mating relationships at all times. Instead, humans possess adaptive desires, preferences, and behavioral tactics that are differentially activated depending on whether a long-term or short-term mating strategy is actively being pursued at the time (Gangestad & Simpson, 2000; Schmitt, 2005a; Schmitt et al., 2003; Simpson, Wilson, & Winterheld, 2004).

Most evolutionary theories of human mating argue that such a flexible mating design—composed of both long-term monogamous adaptations and short-term promiscuous adaptations—would have provided important reproductive benefits to humans in our ancestral past, allowing individuals to functionally respond to a wide range of familial, cultural, and ecological contexts (Belsky, 1999; Buss & Schmitt, 1993; Lancaster, 1994; Pedersen, 1991). Evolutionary theories further acknowledge that humans can benefit from shifting between long-term and short-term mating strategies during their life span, when in different stages of romantic relationships, and across the ovulatory cycle (Gangestad, 2001; Klusmann, 2002; Schmitt et al., 2002). Thus, humans have evolved the capacity to initiate a mix of mating relationship types—both long-term and short-term—depending on fitness-related circumstances.

Most evolutionary psychology approaches further postulate that men and women possess design features that cause sex differences within long-term and short-term mating contexts. For example, when men seek short-term mates they appear motivated by adaptive desires for sexual variety—desires that lead them to functionally pursue numerous mating partners and to consent to sex relatively quickly compared to women (Clark & Hatfield, 1989; Okami & Shackelford, 2001; Schmitt et al., 2003; Symons & Ellis, 1989). Women's short-term mating motivations appear not to be rooted in the desire for numerous sexual partners and seem focused, instead, on other factors such as obtaining select men who display dominance, intelligence, or creativity (i.e., show high genetic quality; see Gangestad & Thornhill, 1997; Penton-Voak et al., 2003; Rengan, Levin, Sprecher, Christopher, & Cate, 2000). As a consequence, evolutionary approaches predict that men's and women's mate choices and relationship initiation tactics will differ in important ways, especially within the context of short-term mating. Most evolutionary theories of human mate choice are based on the assumption that the sexes will differ in some ways, an assumption that can be traced to the logic of parental investment theory (Trivers, 1972).

**Parental Investment Theory**

According to parental investment theory (Trivers, 1972), the relative proportion of parental investment—the time and energy devoted to the care of individual offspring (at the expense of other offspring)—varies across the males and females of different species. In some species, males provide more parental investment than females (e.g., the Mormon cricket). In other species, females possess the heavy-investing burdens (e.g., most mammals; Clutton-Brock, 1991). Sex differences in parental investment burdens are systematically linked to processes of sexual selection (Darwin, 1871) in ways that influence mate choice and relationship initiation. The sex that invests less in offspring
is *intrinsically* more competitive, especially over gaining reproductive access to members of the opposite sex, in part because the opposite sex is reluctant to make bad decisions in committing its typically heavier investment. This normally results in the lesser investing sex being reliably more aggressive with his or her own sex, and tending to die earlier, to mature later, and generally to compete for mates with more vigor, than does the heavier investing sex (Alcock, 2001). Furthermore, the lesser investing sex of a species is *intersexually* less discriminating in mate choice than the heavier investing sex. The lesser investing sex is willing to mate more quickly and at lower cost, and will initiate relationships with more partners than the heavier investing parent (Bateson, 1983). Again, this is largely because members of the heavier investing sex face higher reproductive costs associated with poor mating decisions and also have fewer mating decisions with which to gamble over their reproductive life spans.

Much of the evidence in favor of parental investment theory (Trivers, 1972) has come from species where females happen to be the heavy-investing sex (see Clutton-Brock, 1991). In such species, parental investment theory leads to the prediction that sexual selection has been more potent among males. Upon empirical examination, males of these species tend to display more competitiveness with each other over sexual access to heavier investing females, and to exhibit more intrasexual competition through greater aggressiveness, riskier life history strategies, and earlier death than females (Archer & Lloyd, 2002; Trivers, 1985). Lesser investing males are also less discriminate through intersexual mate choice, often seeking multiple partners and requiring less time before initiating sex than females do (see Geary, 1998).

Perhaps the most compelling support for parental investment theory (Trivers, 1972), however, has come from “sex-role-reversed” species. In species where males are the heavy-investing parent, the processes of sexual selection are thought to have been more potent among females. Females of these species vie more ferociously for sexual access to heavy-investing males and require little from males before consenting to sex. Evidence of this form of sexual differentiation has been documented among such “sex-role-reversed” species as the red-necked phalarope, the Mormon cricket, katydids, dance flies, water bugs, seahorses, and a variety of fish species (Alcock, 2001). Parental investment theory, therefore, is not a theory about males always having more interest in indiscriminate sex than females. Instead, it is a theory about differences in parental investment obligations systematically relating to sex differences in mate choice and relationship initiation.

Among humans, many men invest heavily in their children, teaching them social skills, emotionally nurturing them, and investing both resources and prestige in them. Nevertheless, men incur much lower levels of obligatory or “minimum” parental investment in offspring than women do (Symons, 1979). Women are obligated, for example, to incur the costs of internal fertilization, placentation, and gestation in order to reproduce. The minimum physiological obligations of men are considerably less—requiring only the contribution of sperm. Furthermore, all female mammals, including ancestral women, carried the obligatory investments associated with lactation. Lactation can last several years in human foraging environments (Kelly, 1995), years during which it is harder for women than men to reproduce and invest in additional offspring (Blurton Jones, 1986). Finally, across all known cultures human males typically invest less in active parenting efforts than females (Low, 1989; Munroe & Munroe, 1997).

This human asymmetry in parental investment should affect mate choice and relationship initiation, with the lesser investing sex (i.e., men) displaying greater intrasexual competitiveness and lower intersexual “choosiness” in mate preferences. Numerous studies have shown that men exhibit greater physical size and competitive aggression (Archer & Lloyd, 2002), riskier life history strategies (Daly & Wilson, 1988), relatively delayed maturation (Geary, 1998), and earlier death than women do across cultures (Alexander & Noonan, 1979). In addition, men’s mate preferences are, as predicted, almost always less “choosy” or discriminating than women’s, especially in the context of short-term mating (Kenrick et al., 1990; Regan et al., 2000).

Because men are the lesser investing sex of our species, they also should be more inclined toward initiating low-cost, short-term mating than women. Human sex differences in the desire for short-term sex have been observed in studies of sociosexuality (Jones, 1998; Schmitt, 2005a; Simpson...
& Gangestad, 1991), motivations for and prevalence of extramarital mating (Seal, Agostinelli, & Hannett, 1994; Wiederman, 1997), quality and quantity of sexual fantasies (Ellis & Symons, 1990), quality and quantity of pornography consumption (Malamuth, 1996), motivations for and use of prostitution (McGuire & Gruter, 2003), willingness to have sex without commitment (Townsend, 1995), willingness to have sex with strangers (Clark, 1990; Clark & Hatfield, 1989), and the fundamental differences between the short-term mating psychology of gay males and lesbians (Bailey, Gaulin, Agyei, & Gladue, 1994). Clearly, sex differences in parental investment obligations have an influence on men’s and women’s fundamental mate choices and relationship initiation strategies.

**Sexual Strategies Theory**

Buss and Schmitt (1993) expanded on parental investment theory (Trivers, 1972) by proposing sexual strategies theory (SST). According to SST, men and women have evolved a pluralistic repertoire of mating strategies. One strategy within this repertoire is “long-term” mating. Long-term mating is usually marked by extended courtship, heavy investment, pairbonding, the emotion of love, and the dedication of resources over a long temporal span to the mating relationship and any offspring that ensue. Another strategy within the human mating repertoire is “short-term” mating, defined as a relatively fleeting sexual encounter such as a brief affair, a hookup, or a one-night stand. Which sexual strategy or mix of strategies an individual pursues is predicted to be contingent on factors such as opportunity, personal mate value, sex ratio in the relevant mating pool, parental influences, regnant cultural norms, and other features of social and personal contexts (see also Gangestad & Simpson, 2000; Schmitt, 2005a, 2005b).

**EVOLUTION OF SEX DIFFERENCES IN MATE CHOICE AND RELATIONSHIP INITIATION**

**Sex Differences in Long-Term Mating**

Although SST views both sexes as having long-term and short-term mating strategies within their repertoire, men and women are predicted to differ psychologically in what they desire (i.e., mate choice) and in how they tactically pursue (i.e., initiate) romantic relationships. In long-term mate choice, the sexes are predicted to differ in several respects. Men are hypothesized to possess adaptations that lead them to place a greater mate choice premium during long-term mating on signals of fertility and reproductive value, such as a woman’s youth and physical appearance (Buss, 1989; Jones, 1995; Kenrick & Keefe, 1992; Singh, 1993; Symons, 1979). Men also prefer long-term mates who are sexually faithful and are capable of good parenting (see Table 3.1). Women, in contrast, are hypothesized to place a greater premium during long-term mating on a man’s status, resources, ambition, and maturity (cues relevant to his ability for long-term provisioning), as well as his kindness, generosity, and emotional openness (cues to his willingness to provide for women and their children) (Bunnik, Dijkstra, Kenrick, & Warntjes, 2001; Cashdan, 1993; Ellis, 1992; Feingold, 1992; Townsend & Wasserman, 1998).

Conversely, men who display cues to long-term provisioning, and women who display youthfulness, tend to be the ones who are most effective at initiating, enhancing, and preserving monogamous mating relationships (Buss, 1988; Hirsch & Paul, 1996; Landolt, Lahuriere, & Quinsey, 1995; Schmitt, 2002; Tooke & Camire, 1991; Walters & Crawford, 1994). From an evolutionary perspective, the differing qualities that men and women preferentially respond to are thought to help solve the adaptive problems that men and women had to overcome throughout human evolutionary history (Schmitt & Buss, 1996). Of course, in our ancestral past men and women also faced similar problems of mate choice, leading to little or no sex differences in some domains (see Buss & Schmitt, 1993).

Numerous survey and meta-analytic studies have confirmed many of the major tenets of SST, including the fact that men and women seeking long-term mates desire different attributes in potential
partners (e.g., Cunningham, Roberts, Barbee, Druen, & Wu, 1995; Graziano, Jensen-Campbell, Todd, & Finch, 1997; Jensen-Campbell, Graziano, & West, 1995; Kruger, Fisher, & Jobling, 2003; Li, Bailey, Kenrick, & Linsenmeier, 2002; Regan, 1998a, 1998b; Regan & Berscheid, 1997; Urbaniak & Kilmann, 2003). Several investigators have replicated or confirmed SST-related findings using nationally representative, cross-cultural, or multicultural samples (Feingold, 1992; Knodel, Low, Saengtienciachai, & Lucas, 1997; Schmitt et al., 2003; Sprecher, Sullivan, & Hatfield, 1994; Walter, 1997). For example, in a recent Internet study of 119,733 men and 98,462 women across 53 nations, Lippa (2007) replicated the classic evolutionary finding of men’s greater desires, relative to women, for long-term mates who are physically attractive. Women, in contrast to men, tended to report greater preferences for long-term mates who display cues to the ability and willingness to provide resources (e.g., intelligence, kindness, and dependability; see Lippa, 2007). Other investigators have validated key SST hypotheses concerning sex differences in long-term mate choice using nonsurvey techniques such as studying actual mate attraction, marital choice, spousal conflict, and divorce (Betzig, 1989; Dawson & McIntosh, 2006; Kenrick, Neuberg, Zierk, & Krones, 1994; Salmon & Symons, 2001; Schmitt, Condon, & Baker, 2001; Townsend & Wasserman, 1998; Wiederman, 1993). These experimental, behavioral, and naturalistic methodologies suggest that evolutionary-supportive findings are not merely stereotype artifacts or social desirability biases limited to self-reported mate choice.

Kenrick and his colleagues (1994), for example, demonstrated using the “contrast effect” that experimental exposure to physically attractive women tended to lessen a man’s commitment to his current relationship partner. However, exposure to physically attractive men had no effect on women’s commitment to their current partners. Conversely, when women were exposed to targets who had high status- and resource-related attributes, this lessened women’s (but not men’s) commitment to their current romantic partners. Kenrick and others argued that this indirect research method not only confirms self-reported mate preference findings but also further shows that men’s and women’s evolved mate preferences unconsciously influence men’s and women’s satisfaction and commitment over the long-term course of relationships (see also Buss & Shackelford, 1997; Little & Mannion, 2006).

Another indirect effect of sex-differentiated mating desires can be found in the context of relationship initiation and romantic attraction. According to sexual selection theory (Darwin, 1871), the evolved mate preferences of one sex should have a substantive impact on the effectiveness of attraction tactics used by the opposite sex. If men possess an evolved preference for physical attractiveness, the argument goes, women should be more effective than men at using mate initiation and attraction tactics that manipulate physical attractiveness (e.g., by appearing youthful). Conversely, if women prefer resource-related attributes more than men do, men should be seen as more effective than women at using resource-related tactics of initiation and attraction (e.g., by demonstrating intelligence, kindness, and dependability). Empirical evaluations of this aspect of sexual selection in humans have been supportive. For example, Buss (1988), Tooke and Camire (1991), and Walters and Crawford (1994) all demonstrated that women are judged more effective than men when using appearance-related tactics of initiation and attraction, whereas men are judged more effective than women when using resource-related tactics of romantic initiation and attraction (for a meta-analysis of attraction results, see Schmitt, 2002).

Perceived sex differences in physical appearance and resource-related tactic effectiveness have also been documented within more specialized rating contexts of romantic attraction. Buss (1988) found sex differences in effectiveness ratings of appearance and resource-related tactics when used by men and women to both attract and retain a long-term marital partner (see also Bleske-Rechek & Buss, 2001; Flinn, 1985). Schmitt and Buss (1996) documented sex differences in perceived tactic effectiveness across both self-promotion and competitor derogation forms of mate attraction (i.e., when people highlight their own positive qualities and tear down their rivals’ perceived qualities; see also Greer & Buss, 1994; Walters & Crawford, 1994). Schmitt and Buss (2001) found sex differences in perceived appearance and resource-related mate attraction within the specialized context of obtaining a long-term mating partner who is already in a relationship, what they called the context of mate poaching (see also Bleske & Shackelford, 2001; Schmitt & Shackelford, 2003). Whether
Sex Differences in Long-Term Mating Psychology

Researchers ask people directly, observe their real-life behavior, or subtly look for indirect effects, the pervasive range of sex differences in long-term mating psychology supports the evolutionary perspective on mate choice and relationship initiation.

Sex Differences in Short-Term Mating

According to SST, both sexes are hypothesized to pursue short-term mateships in certain contexts, but for different reproductive reasons that reflect sex-specific adaptive problems (Buss & Schmitt, 1993). For women, the asymmetry in obligatory parental investment (Symons, 1979; Trivers, 1972) leaves them little to gain in reproductive output by engaging in indiscriminate, short-term sex with high numbers of partners. Women can reap evolutionary benefits from short-term mating (Greiling & Buss, 2000; Hrdy, 1981). However, women’s psychology of short-term mate choice appears to center on obtaining men of high genetic quality rather than numerous men in high-volume quantity (Banfield & McCabe, 2001; Gangestad & Thornhill, 1998; Li & Kenrick, 2006; Smith, 1984).

For men, the potential reproductive benefits from short-term mating with numerous partners can be profound. A man can produce as many as 100 offspring by mating with 100 women over the course of a year, whereas a man who is monogamous will tend to have only one child with his partner during that same time period. In evolutionary currencies, this represents a strong selective pressure—and a potent adaptive problem—for men's short-term mating strategy to center on obtaining large numbers of partners (Schmitt et al., 2003). Obviously, 100 instances of only onetime mating would rarely produce precisely 100 offspring. However, a man mating with 100 women over the course of a year—particularly repeated matings when the women are nearing ovulation and are especially interested in short-term mating (Gangestad, 2001)—would likely have significantly more offspring than a woman mating repeatedly with 100 interested men over the course of a year.

According to SST, three of the specific design features of men's short-term mating psychology are that (a) men possess a greater desire than women do for a variety of sexual partners, (b) men require less time to elapse than women do before consenting to sexual intercourse, and (c) men tend to more actively seek short-term mateships than women do (Buss & Schmitt, 1993). This suite of hypothesized sex differences has been well supported empirically. For example, Schmitt and his colleagues (2003) documented these fundamental sex differences across 10 major regions of the world. When people from North America were asked, "Ideally, how many different sexual partners would you like to have in the next month?" over 23% of men, but only 3% of women, indicated that they would like more than one sexual partner in the next month. This finding confirmed that many men, and few women, desire sexual variety in the form of multiple sexual partners over short time intervals. Similar degrees of sexual differentiation were found in South America (35.0% versus 6.1%), Western Europe (22.6% versus 5.5%), Eastern Europe (31.7% versus 7.1%), Southern Europe (31.0% versus 6.0%), the Middle East (33.1% versus 5.9%), Africa (18.2% versus 4.2%), Oceania (25.3% versus 5.8%), South and Southeast Asia (32.4% versus 6.4%), and East Asia (17.9% versus 2.6%). These sex differences also persisted across a variety of demographic statuses, including age, socioeconomic status, and sexual orientation. Moreover, when men and women who reported actively pursuing a short-term mating strategy were asked whether they wanted more than one partner in the next month, over 50% of men, but less than 20% of women, expressed desires for multiple sexual partners (Schmitt et al., 2003). This finding supports the key SST hypothesis that men's short-term mating strategy is very different from women's and is based, in part, on obtaining large numbers of sexual partners.

Other findings from the cross-cultural study by Schmitt and his colleagues (2003) documented that men universally agree to have sex after less time has elapsed than women do, and that men from all world regions expend more effort on seeking brief sexual relationships than women do. For example, across all cultures nearly 25% of married men, but only 10% of married women, reported that they are actively seeking short-term, extramarital relationships (see also Wiederman, 1997). These culturally universal findings support the view that men evolved to seek large numbers of sex partners when they pursue a short-term mating strategy. Some women also pursue short-term mates. However, when women seek short-term mates they are more selective and tend to seek out men who...
are physically attractive, are intelligent, and otherwise possess high-quality genes (Buss & Schmitt, 1993; Gangestad & Thornhill, 1997, 2003).

**EVOLUTION OF INDIVIDUAL DIFFERENCES IN MATE CHOICE AND RELATIONSHIP INITIATION**

The previous section addressed the evolutionary psychology of how men and women choose and initiate short-term and long-term mating relationships. Another important question is when and why an individual man or woman would choose to pursue a long-term mateship versus a short-term mateship. Several theories have suggested that personal circumstances—including stage of life, personal characteristics, and physical attributes—play an adaptive role in shaping or evoking people’s strategic mating choices (Buss & Schmitt, 1993; Gangestad & Simpson, 2000). Among the more important sex-specific features that affect mating strategies are men’s overall mate value and women’s ovulatory status.

**Mating Differences within Men**

According to SST (Buss & Schmitt, 1993), men possess a menu of alternative mating strategies that they can follow. Whether a man chooses to pursue a short-term or long-term mating strategy (or both) may depend, in part, on his status and prestige. In foraging cultures, men with higher status and prestige tend to possess multiple wives (Betzig, 1986; Borgerhoff Mulder, 1987, 1990; Cronk, 1991; Heath & Hadley, 1998), and in so doing polygynous men are able to satisfy aspects of both their long-term pairbonding desires and short-term “numerous partner” desires. In most modern cultures, men with high status are unable to legally marry more than one woman. However, high-status men are more likely to successfully pursue extramarital affairs and to practice de facto or “effective” polygyny in the form of serial divorce and remarriage compared to others (Brown & Hotra, 1988; Buss, 2000; Fisher, 1992). Given an equal sex ratio of men and women in a given culture, this results in other men—namely, those with low status and prestige—being limited to monogamy in the form of one wife. Some low-status men are left with no wives at all, and may choose to resort to coercive, low-investment mating strategies (Thornhill & Palmer, 2000). Consequently, important sources of individual variation in men’s mate choice and relationship initiation tactics are status and prestige.

Whether a man follows a more short-term- or long-term-oriented mating strategy depends on other factors as well, many of which relate to the man’s overall value in the mating marketplace (Gangestad & Simpson, 2000). A man’s “mate value” is determined, in part, by his status and prestige. It is also affected by his current resource holdings, long-term ambition, intelligence, interpersonal dominance, social popularity, sense of humor, reputation for kindness, maturity, height, strength, and athleticism (Chagnon, 1988; Ellis, 1992; Miller, 2000; Nettle, 2002; Pierce, 1996).

Most studies of men in modern cultures find that, when they are able to do so as a result of high mate value, men choose to engage in multiple mating relationships. For example, Lalumiere, Seto, and Quinsey (1995) designed a scale to measure overall mating opportunities. The scale, similar to overall mate value, included items such as “Relative to my peer group, I can get dates with ease.” They found that men with higher mate value tended to have sex at an earlier age, to have a larger number of sexual partners, and to follow a more promiscuous mating strategy overall (see also James, 2003; Landolt et al., 1995).

Another potential indicator of mate value is the social barometer of self-esteem (Kirkpatrick, Waugh, Valencia, & Webster, 2002). Similar to the results with mating opportunities, men who score higher on self-esteem scales tend to choose and to successfully engage in more short-term mating relationships (Baumeister & Tice, 2001; Walsh, 1991). Indeed, in a recent cross-cultural study by Schmitt (2005b), this revealing trend was evident across several world regions. The same relationship was usually not evident, and was often reversed, among women in modern nations (see also Mikach
& Bailey, 1999). That is, women with high self-esteem were more likely to pursue monogamous, long-term mating strategies. These findings would seem to support parental investment theory (Trivers, 1972), in that when mate value is high and people are given a choice, men prefer short-term mating (sometimes in addition to long-term mating), whereas women strategically prefer a single monogamous mateship. An important determinant of individual mate choice, therefore, is overall mate value in the mating marketplace, with men of high mate value and women of low mate value more likely to pursue short-term mating strategies (see Table 3.1).

According to strategic pluralism theory (Gangestad & Simpson, 2000), men should also be more likely to engage in short-term mating when they exhibit the physical characteristics most preferred by women who desire a short-term mate, especially those traits indicative of high genetic quality. Higher facial symmetry, for example, is indicative of low genetic mutation load in men, and women adaptively prefer facial symmetry when pursing short-term mates (Gangestad & Thornhill, 1997). This is because one of the key benefits women can reap from short-term mating is to gain access to high-quality genes that they might not be able to secure from a long-term partner (Gangestad, 2001).

### Table 3.1 Fundamental Features of Long-Term and Short-Term Mating Strategies in Men and Women

<table>
<thead>
<tr>
<th></th>
<th>Men’s Long-Term Mating Strategy</th>
<th>Men’s Short-Term Mating Strategy</th>
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<tbody>
<tr>
<td><strong>Key mate choice adaptations</strong></td>
<td>Prefer cues to youth and fertility, prefer sexual fidelity, and prefer good parenting skills</td>
<td>Prefer large number of partners, prefer easy sexual access, and minimize commitment</td>
</tr>
<tr>
<td><strong>Effective relationship initiation tactics</strong></td>
<td>Demonstrate ability and willingness to invest, and demonstrate emotional commitment</td>
<td>Provide immediate resources, demonstrate intelligence, and feign long-term interests</td>
</tr>
<tr>
<td><strong>Associated personal characteristics</strong></td>
<td>Low mate value, feminine and asymmetrical facial features, and low testosterone</td>
<td>High mate value, masculine and symmetrical facial features, and high testosterone</td>
</tr>
<tr>
<td><strong>Eliciting cultural and familial factors</strong></td>
<td>High sex ratio (more men than women), and secure parent–child attachment</td>
<td>Low sex ratio (more women than men), and insecure-dismissing parent–child attachment</td>
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<table>
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<th></th>
<th>Women’s Long-Term Mating Strategy</th>
<th>Women’s Short-Term Mating Strategy</th>
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<tbody>
<tr>
<td><strong>Key mate choice adaptations</strong></td>
<td>Prefer attributes that indicate ability and willingness to invest in self and offspring</td>
<td>Prefer immediate resources, and prefer genetic quality (intelligence, masculinity, and symmetry)</td>
</tr>
<tr>
<td><strong>Effective relationship initiation tactics</strong></td>
<td>Provide cues to youth and fertility, suggest sexual fidelity, and suggest good parenting skills</td>
<td>Provide easy sexual access, and limit future commitment</td>
</tr>
<tr>
<td><strong>Associated personal characteristics</strong></td>
<td>High mate value, high self-esteem, and luteal phase of ovulatory cycle</td>
<td>Low mate value, low self-esteem, and late follicular phase of ovulatory cycle</td>
</tr>
<tr>
<td><strong>Eliciting cultural and familial factors</strong></td>
<td>High sex ratio, and secure parent–child attachment</td>
<td>Low sex ratio, and insecure-fearful and insecure-preoccupied parent–child attachment</td>
</tr>
</tbody>
</table>
Evidence that physically attractive men adaptively respond to women's desires and become more promiscuous comes from other sources, as well. For example, men who possess broad and muscular shoulders, a physical attribute preferred by short-term-oriented women (Frederick, Haselton, Buchanan, & Gallup, 2003), tend toward short-term mating as reflected in an earlier age of first intercourse, more sexual partners, and more extrapair copulations (Hughes & Gallup, 2003). In numerous studies, Gangestad and his colleagues have shown that women who seek short-term mates place special importance on the physical attractiveness of their partners, and that physically attractive men are more likely to pursue short-term mating strategies (Gangestad & Cousins, 2001; Gangestad & Thornhill, 1997; Thornhill & Gangestad, 1994, 1999).

Some research suggests that genetic and hormonal predispositions may affect men's mate choice and relationship initiation strategies (Bailey, Kirk, Zhu, Dunne, & Martin, 2000). Much of this research focuses on the moderating effects of testosterone (Dabbs & Dabbs, 2000). For example, married men, compared to their same-age single peers, tend to have lower levels of testosterone (Burnham et al., 2003), though this is not true among married men who are also interested in concurrent extrapair copulations or short-term mate ships (McIntyre et al., 2006). Men who are expectant fathers and hope to have children only with their current partner have relatively low testosterone (Gray, Kahlenberg, Barrett, Lipson, & Ellison, 2002), whereas men possessing high testosterone tend to have more sexual partners, to start having sex earlier, to have higher sperm counts, to be more interested in sex, and to divorce more frequently, and are more likely to have affairs (Alexander & Sherwin, 1991; Manning, 2002; Mazur & Booth, 1998; Udry & Campbell, 1994). The root cause of this mate choice variability may lie in early testosterone exposure and its effects on the activation of men's short-term mating psychology. Exposure to high testosterone levels in utero causes increased masculinization of the human brain and increased testosterone in adulthood (Manning; Ridley, 2003). If men's brains are programmed for greater short-term mating in general (Symons, 1979; Trivers, 1972), this would lead to the hypothesis that those who are exposed to higher testosterone levels in utero would be more likely to develop short-term mating strategies in adulthood. In women, though, other factors appear to adaptively influence mating strategy choice.

**Mating Differences within Women**

Women's desires for engaging in sexual intercourse tend to vary across their ovulatory cycles. On average, women's desires for sex peak during the late follicular phase, just before ovulation, when the odds of becoming pregnant would be maximized (Regan, 1996). It was once thought that this shift in sexual desire evolved because it increased the probability of having conceptive intercourse in our monogamous female ancestors. However, several studies have now documented that women's short-term desires for men with high-quality genes actually peak in the highly fertile days just before ovulation (Gangestad, 2001; Gangestad, Garver-Apgar, & Simpson, 2007; Gangestad & Thornhill, 1997; Haselton & Miller, 2006).

For example, women who are interested in short-term mating tend to prefer men who are high in dominance and masculinity (Buss & Schmitt, 1993), as indicated by testosterone-related attributes such as prominent brows, large chins, and other features of facial masculinity (Mueller & Mazur, 1997; Penton-Voak & Chen, 2004; Perrett et al., 1998). Short-term-oriented women may prefer these attributes because facial markers of testosterone are honest indicators of immunocompetence quality in men (Gangestad & Thornhill, 2003). During the late follicular phase, women's preferences for men with masculine faces conspicuously increase (Johnston, Hagel, Franklin, Fink, & Grammer, 2001; Penton-Voak et al., 2003), as do their preferences for masculine voices (Puts, 2006), precisely as though women are shifting their mating psychology to follow a more short-term-oriented strategy around ovulation.

A similar ovulatory shift can be seen in women's preference for symmetrical faces. Women who generally pursue a short-term mating strategy express strong preferences for male faces that are symmetrical, perhaps because facial symmetry is indicative of low mutation load (Gangestad & Thornhill, 1997). During the late follicular phase, women's preference for symmetrical faces increases.
even further (Gangestad & Cousins, 2001), again as though they have shifted their psychology to
that of a short-term mating strategist. It has also been shown that women who are nearing ovulation
find the pheromonal smell of symmetrical men more appealing than when women are less fertile
(Gangestad & Thornhill, 1998; Rikowski & Grammer, 1999), that women who mate with more sym-
metrical men have more frequent and intense orgasms (Thornhill, Gangestad, & Comer, 1995),
and that men with attractive faces have qualitatively better health (Shackelford & Larsen, 1999)
and semen characteristics (Soler et al., 2003). Finally, women appear to dress more provocatively
when nearing ovulation (Grammer, Remminger, & Fischer, 2004), though women near ovulation also
reduce risky behaviors associated with being raped, especially if they are not taking contraception
(Bröder & Hohmann, 2003).

Overall, there is compelling evidence that women's mating strategies shift at the within-per-
son level from a long-term mating psychology to a more short-term-oriented mating psychology,
precisely when they are the most fertile. It is possible that these shifts reflect women seeking high-
quality genes from extrapair copulations while maintaining a long-term relationship with a heavily
investing partner (Gangestad, 2001; Haselton & Miller, 2006).

Additional individual differences and personal situations may be linked to adaptive variability in
women's mate choices and relationship initiation strategies. For example, short-term mating strate-
gies are more likely to occur during adolescence, when one's partner is of low mate value, when one
desires to get rid of a mate, and after divorce—all situations where short-term mating may serve
adaptive functions (Cashdan, 1996; Greiling & Buss, 2000). In some cases, short-term mating seems
to emerge as an adaptive reaction to early developmental experiences within the family (Michalski
& Shackelford, 2002). For example, short-term mating strategies are more likely to occur among
women growing up in father-absent homes (Moffit, Caspi, Belsky, & Silva, 1992; Quinlan, 2003),
especially in homes where a stepfather is present (Ellis & Garber, 2000). In these cases, the absence
of a father and presence of a stepfather may indicate to young women that mating-age men are unre-
liable. In such environments, short-term mating may serve as the more viable mating strategy choice
once in adulthood (see also Belsky, 1999).

Finally, some have argued that frequency-dependent or other forms of selection have resulted
in different heritable tendencies toward long-term versus short-term mating (Gangestad & Simpson,
1990). There is behavioral genetic evidence that age at first intercourse, lifetime number of sex part-
ners, and sociosexuality—a general trait that varies from restricted long-term mating to unrestricted
short-term mating—are somewhat heritable (Bailey et al., 2000; Rowe, 2002). However, most find-
ings suggest that heritability in mate choice and mating strategy is stronger in men than in women
(Dunne et al., 1997).

**EVOLUTION OF CULTURAL DIFFERENCES IN MATE
CHOICE AND RELATIONSHIP INITIATION**

**Sex Ratios and Human Mating**

In addition to sex and individual differences in mating strategies, mate choices and relationship
initiation behaviors appear to vary in evolutionary-relevant ways across cultures (Frayser, 1985; Kelly,
1995; Pasternak et al., 1997). Pedersen (1991) has speculated that the relative number of men versus
women in a given culture should influence mating behavior. Operational sex ratio can be defined
as the relative balance of marriage-age men versus marriage-age women in the local mating pool
(Secord, 1983). Sex ratios are considered "high" when the number of men significantly outsizes the
number of women in a local culture. Sex ratios are considered "low" when there are relatively more
women than men in the mating market. In most cultures women tend to slightly outnumber men,
largely because of men's polygynous tendency to have a higher mortality rate (Daly & Wilson, 1988).
Nevertheless, significant variation often exists in sex ratios across cultures, and within cultures when
viewed over historical time (Grant, 1998; Guttentag & Secord, 1983).
Pedersen (1991) argued that a combination of sexual selection theory (Darwin, 1871) and parental investment theory (Trivers, 1972) leads to a series of predictions concerning the effects of sex ratios on human mating strategies. According to sexual selection theory, when males desire a particular attribute in potential mating partners, females of that species tend to respond by competing in the expression and provision of that desired attribute. Among humans, when sex ratios are especially low and there are many more women than men, men should become an especially scarce resource that women compete for with even more intensity than normal (see also Guttentag & Secord, 1983).

When combined with the parental investment notion described earlier in which men tend to desire short-term mating (Trivers, 1972), this leads to the hypothesis that humans in cultures with lower sex ratios (i.e., more women than men) should possess more short-term-oriented mating strategies. Conversely, when sex ratios are high and men greatly outnumber women, men must enter into more intense competition for the limited number of potential female partners. Women’s preferences for long-term monogamous relationships become the key desires that must be responded to if men are to remain competitive in the courtship marketplace.

Using data from sex ratio fluctuations over time within the United States, Pedersen (1991) marshaled a compelling case for a causal link between sex ratios and human mating strategies (see also Guttentag & Secord, 1983). For example, high sex ratio fluctuations have been historically associated with increases in monogamy, as evidenced by lower divorce rates and men’s greater willingness to invest in their children. Low sex ratios have been historically associated with indexes of short-term mating, such as an increase in divorce rates and a reduction in what he termed female “sexual coyness.” In a recent cross-cultural study (Schmitt, 2005a), national sex ratios were correlated with direct measures of basic human mating strategies across 48 nations in an attempt to test Pedersen’s theory. As expected, cultures with more men than women tended toward long-term mating, whereas cultures with more women than men tended toward short-term mating (see also Barber, 2000).

Attachment and Human Mating

Several combinations of life history theory (Low, 1998) and attachment theory (Bowlby, 1982) have suggested that certain critical experiences during childhood play a role in the development of human mating strategies (Belsky, 1999). Perhaps the most prominent of these theories is a life span model developed by Belsky, Steinberg, and Draper (1991). According to this model, early social experiences adaptively channel children down one of two reproductive pathways. Children who are socially exposed to high levels of stress—especially insensitive or inconsistent parenting, harsh physical environments, and economic hardship—tend to develop insecure attachment styles. These children also tend to physically mature earlier than those children who are exposed to less stress. According to Belsky and his colleagues (1991), attachment insecurity and early physical maturity subsequently lead to the evolutionary-adaptive development of what is called an “opportunist” reproductive strategy in adulthood (i.e., short-term mating). In cultures with unpredictable social environments, it is therefore argued, children adaptively respond to stressful cues by developing the more viable strategy of short-term mating.

Conversely, those children exposed to lower levels of stress and less environmental hardship tend to be more emotionally secure and to physically mature later. These children are thought to develop a more “investing” reproductive strategy in adulthood (i.e., long-term mating) that pays evolutionary dividends in low-stress environments. Although the causal mechanisms that influence strategic mating are most prominently located within the family, this model also suggests that certain aspects of culture may be related to mating strategy variation (see also Belsky, 1999).

A closely related theory has been proposed by Chisholm (1996). Chisholm argued that local mortality rates—presumably related to high stress and inadequate resources—act as cues that facultatively shift human mating strategies in evolutionary-adaptive ways. In cultures with high mortality rates and unpredictable resources, the optimal mating strategy is to reproduce early and often, a strategy related to insecure attachment, short-term temporal orientations, and promiscuous mating strategies. In cultures that are physically safe and have abundant resources, mortality rates are lower...
and the optimal strategy is to invest heavily in fewer numbers of offspring. In safer environments, therefore, one should pursue a long-term strategy associated with more monogamous mating. Collectively, the Belsky et al. (1991) and Chisholm (1996) theories can be referred to as a “developmental-attachment theory” of human mating strategies.

Numerous studies have provided support for developmental-attachment theory (Barber, 2003; Belsky, 1999; Ellis & Garber, 2000; Moffit et al., 1992; Quinlan, 2003). In a recent attempt to test developmental-attachment theory, Schmitt and his colleagues (Schmitt, Acalay, Allensworth, et al., 2004) measured the romantic attachment styles of over 17,000 people from 56 nations. They related insecure attachment styles to various indexes of familial stress, economic resources, mortality, and fertility. They found overwhelming support for developmental-attachment theory. For example, nations with higher fertility rates, higher mortality rates, higher levels of stress (e.g., poor health and education), and lower levels of resources tended to have higher levels of insecure romantic attachment. Schmitt (2005a) also found that short-term mating was related to insecure attachment across cultures. As expected, the dismissing form of insecure attachment was linked to short-term mating in men, and fearful or preoccupied forms of insecure attachment were linked to short-term mating in women. These findings support the view that stressful environments cause increases in insecure romantic attachment, increases presumably linked to short-term mating strategies (see also Kirkpatrick, 1998).

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Evolutionary psychology is but one perspective from which to view the special psychology of human romance, and relying solely on the perspective presented here would be a mistake. For example, religion has been shown to have a strong influence on mate choice and relationship initiation (Fasternak et al., 1997; Reynolds & Tanner, 1983), particularly among women (Baumeister & Twenge, 2002). The same appears true for political ideology, education level, and other sociopolitical facets of the modern human condition (Laumann, Gagnon, Michael, & Michaels, 1994; Pratto, 1996). None of these factors have been fully integrated into the current review.

Future research on human mate choice and relationship initiation should attempt to integrate evolutionary perspectives with other theories and viewpoints on human sexuality, particularly social role theories (e.g., see Kenrick, 2006; Kenrick, Trost, & Sundie, 2004; Schmitt, 2005a). It can be tempting to contrast evolutionary and social role theories as either-or explanations of human mate choice and relationship initiation. However, an increasing number of investigators have focused on integrating these perspectives into coherent accounts of how biology and culture interact to produce the patterns of human sexuality we see across sexes, individuals, and cultures (Gangestad, Haselton, & Buss, 2006; Lippa, 2007).

The current chapter, in which mate choice and relationship initiation were viewed as resulting from a collection of evolved psychological adaptations, focused primarily on the evolutionary perspective and, as a result, may appear quite limited. Still, any comprehensive theory of mate choice and relationship initiation must first take into account the most fundamental evolutionary questions: As a species, what is our natural mating system, and how does our resulting evolved psychology influence modern human sexuality? Based on the evidence reviewed here, humans appear to possess psychological adaptations related to several mating systems, including monogamy, polygyny, and promiscuity. Our pluralistic human mating repertoire may be fundamentally organized in terms of basic long-term and short-term mating psychologies. The activation and pursuit of these mating psychologies—including concomitant patterns of mate choice and relationship initiation—differ in adaptive ways across sex, individual circumstance, and cultural context.

The sexes differ significantly in their adaptations for short-term mate choice. Men’s short-term mating strategy is based primarily on obtaining large numbers of partners, being quick to consent to sex, and more actively seeking brief sexual encounters. Women’s short-term strategy seems more heavily rooted in obtaining partners of high genetic quality, including men who possess masculine
and symmetrical faces. Both sexes desire long-term monogamous partners who are kind and understanding, but men place more emphasis on youth, and women on social status and resource ability, when considering a long-term mate (see Table 3.1).

According to sexual selection theory (Darwin, 1871), evolved mate choice adaptations in one sex should impact on the effectiveness of relationship initiation tactics used by the opposite sex. If men possess an evolved preference for long-term mates who are relatively youthful, for example, women should be effective at using relationship initiation and mate attraction tactics that manipulate the appearance of youthfulness. Evidence suggests this is, indeed, the case (Schmitt, 2002). Conversely, if women prefer long-term mates who are able and willing to provide resources and emotional investment in offspring, men should be effective at using these tactics of initiation and attraction when seeking long-term mates (see Table 3.1).

Individual differences in mate choice and relationship initiation are also important from an evolutionary perspective, and within-sex differences in human mating appear to sometimes emerge as adaptive responses to key personal circumstances (e.g., one’s physical characteristics). Men high in social status and mate value, for example, tend to pursue more short-term-oriented mating strategies than other men, and where possible highly valued men strive for polygynous marriages (or serial marriages). Women nearing ovulation tend to manifest desires indicative of their short-term mating psychology, expressing more potent mate choice for masculine and dominant men and being more sensitive to the pheromones of symmetrical men (Gangestad et al., 2007).

Features of culture and local ecology may influence the differential pursuit of long-term versus short-term mating strategies. In cultures with high stress levels and high fertility rates, insecure attachment and resulting short-term mating psychologies in men and women may be more common. As a result, in these cultures evolutionary psychologists expect men to emphasize obtaining large numbers of partners and women to emphasize physical features associated with masculinity and symmetry in potential mates (see Schmitt, 2005a). Finally, the relative sex ratio of men versus women in the local mating pool may play a causal role in generating differences in mate choice and relationship initiation behavior both over historical time and across the many diverse forms of human culture. Ultimately, any complete theory of human mate choice and relationship initiation will need to take account of the pluralistic mating system of humans and the accompanying psychological adaptations that lead to the sex, individual, and cultural differences reviewed here.

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