

## The Evolution of Coupling

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A “cult,” as the term is commonly used, denotes a set of unorthodox or spurious beliefs and the people who adhere to them. DePaulo and Morris (this issue) propose that *the cult of the couple* leads members of society in general and social scientists in particular to view the conjugal pair as the single most important social relationship, encompassing the roles of sexual partner, best friend, primary social partner, fundamental kin relation, and economic partner. One outcome of this cultish view is *singlism*: singles are cast a suspicious gaze and they experience discrimination ranging from social ostracism to economic taxation in a world of 2-for-1 specials and family-size portions. Why is being coupled so crucial, seeming to outweigh other markers of social value?

DePaulo and Morris (this issue) place some of the blame on scientific theories, stating, “The evolutionary perspective, attachment theory, and the cult of the couple all seem to share the assumption that the best outcomes occur when the most important roles or functions are all invested in just one person.” We were puzzled by this claim about evolutionary psychology. As we explain later, it is certainly true that sex and mating are central in the evolution of species like humans, but we see nothing in evolutionary theory leading to the prediction that the reproductive pairbond is the only relationship of importance, or even the primary one.

In this article, we review the evolutionary psychology of coupling and discuss why we should expect mateship status to be important to the self and why people seem to have an obsessive interest in the mateship status of others. Our perspective suggests that these social foci spring from universal human motivations with a deep evolutionary history, and therefore it is misleading to think of them as elements of a modern ideology as the *cult* view suggests.

### Is Coupling Important?

Natural selection has been erroneously associated with the phrase “survival of the fittest” (a phrase Darwin himself did not coin), leading many people to think of differences in abilities to survive as the central component in evolution. However, survival has an evolutionary impact only inasmuch as it leads to reproduction. Adaptations may serve the proximate function of increasing survival, such as a particular beak morphology that allows some finches to obtain more food than

others or a tendency for some gazelles to startle more easily than others, giving them a head start when there is a predator afoot. But without adaptations that promote successful mating, such as the basic desire to find a mate and have sex, even the finch with the most perfect beak for her environment or the fastest and most alert gazelle of his herd will meet an evolutionary dead end. From the perspective of the gene, reproduction is quite literally the meaning of life, and for sexually reproducing species, the mateship is indeed critical.

### Dependent Offspring and the Importance of Fathers’ Investment

The evolutionary path leading to human intelligence and bipedal locomotion has produced a suite of reproductive challenges unique to humans, requiring unique solutions. Human offspring, compared to those of other primates, are born weak and dependent and require an extended period of juvenile development (Martin, 2003). Chimpanzee offspring, who gambol and climb with playmates at an age when human infants are only able to roll over for the first time, are capable of providing nearly their entire nutritional needs by the time they are weaned at 5 years of age (Lancaster, Kaplan, Hill, & Hurtado, 2000; Silk, 1978). Children in modern hunter–gatherer populations do not begin to produce as much food as they consume until they are around 15 years old (Hill & Kaplan, 1999). During this time, children are incapable of caring for themselves and are fully dependent on the care of adult kin to provide food, protection, and opportunities for learning.

Despite the slow growth and lengthy juvenile dependency of human children, we wean our offspring much earlier than do chimpanzees (modern hunter–gatherers wean their children at about 2.5 years) and consequently have much shorter interbirth intervals (Lancaster et al., 2000). In chimps and most other primates, the interbirth interval is slightly longer than the time it takes to raise a single offspring to independence—about 5.5 years for chimpanzees—and mothers rarely need to care for more than one dependent offspring at a time. In rare cases in which there are multiple dependents, such as in the birth of twins, only one will usually survive (Dixson, 1999). Yet the interbirth interval among modern hunter–gatherers ranges from only 3 to 5 years, approximately 10 years less than the time required to raise a single child to possible independence (Lancaster et al., 2000). Thus, humans not only have

atypically helpless infants but also regularly care for multiple dependent offspring simultaneously.

One adaptation for raising dependent, slowly developing children is biparental care. Studies of modern hunter-gatherers demonstrate that paternal care can be critical to child survival (Hill & Hurtado, 1996; Hurtado & Hill, 1992; Marlowe, 2003). For example, Aché children between 1 and 5 years of age are 2.6 times more likely to die if their fathers are dead than if their fathers are living, and 2.9 times more likely to die if their parents are divorced than if they are together (Hurtado & Hill, 1992). The resources provided by paternal investment in offspring are many: fathers provide nutritional resources, protection against predators or unfriendly conspecifics, models for learning, and social resources (Marlowe, 1999a, 1999b, 2001).

When paternity certainty is low, however, as it is in chimpanzees, males have little incentive to invest in offspring. In mating systems in which only one male mates with several females, as in gorillas, paternity certainty is close to 100%, but any investment the male might provide will be divided among many offspring. Socially monogamous mating systems, in contrast, serve to increase a male's paternity certainty, even when there is some level of sexual infidelity, while concentrating his parental efforts on fewer offspring (Birkhead, 1998; Daly & Wilson, 1983). In sum, the formation of pairbonds may be an adaptation for caring for offspring who require large amounts of investment over a long period of time, while also allowing for a higher rate of reproduction by shortening the interbirth interval.

### **Extended Sexual Cohabitation and Pregnancy Success**

The physiological challenge of internal gestation also favors long-term mating in humans. A woman's immune system is designed to attack anything it determines is "nonself"; this includes fetal tissue that shares on average only 50% of its genetic material with the mother. One result of this immunological attack is preeclampsia. Preeclampsia is a severe form of gestational hypertension, occurring in about 10% of all human pregnancies, that may lead to epileptic seizures (eclampsia) and possibly result in the death of the fetus (Martin, 2003). Increasing evidence suggests that extended sexual partnerships may enhance pregnancy outcomes both in terms of avoiding these specific complications and in terms of general fetal health indicators such as fetal and placental weight. Because the risk declines substantially with subsequent pregnancies, preeclampsia was long thought of as a disease of first pregnancies. However, recent data indicate that when a woman conceives additional children with a *new partner*, her risk of preeclampsia is as high as for her first pregnancy (Robillard, Dekker, & Hulsey, 1998, 1999).

For first pregnancies, a longer period of sexual cohabitation with the father is associated with reduced risk of preeclampsia (from a 40% chance if conception occurs within the first four months of sexual cohabitation to less than a 5% chance after a year of sexual cohabitation) and increased fetal weight relative to placental weight (Robillard et al., 1994). Thus, the body appears to learn over time not to reject the genetic material of a long-term partner. This suggests an additional selective benefit accruing to those who coupled.

### **Is Coupling Universal?**

#### **Romantic Love, Characterized by the Exclusivity of Feeling, Is Everywhere**

The practice of marriage is a central component of almost all human cultures (Brown, 1991; Daly & Wilson, 1983). Though marriage traditions on the surface appear widely variable, they are all reflections of a species-typical pattern in which individuals generally seek long-term cooperative reproductive relationships, augmented to a greater or lesser degree by nonexclusive, short-term sexual relationships (see, e.g., Buss, 2003; Gangestad & Simpson, 2000; Symons, 1979, for reviews).

Two independent surveys of the ethnographic record suggest that people everywhere, and in every time, experience romantic love. Harris (1995) defined a set of seven core characteristics of romantic love derived from the individual definitions of 17 different theorists (including Averill, 1985; Hatfield & Walster, 1978; Lee, 1988; Murstein, 1970; Peele, 1988; Shaver, Hazan, & Bradshaw, 1988; Sternberg, 1986; Tennov, 1979). Using this definition, she reviewed the primary ethnographic literature and found positive evidence of the existence of romantic love in each of over 100 cultures from every region of the world. Among the characteristics described by Harris are the "desire for union or merger, both sexual and emotional," the "exclusivity of the emotion for one particular person," and a "reordering of motivational hierarchies of life priorities." In an even broader survey, Jankowiak and Fischer (1992) used data from the Human Relations Area File (HRAF) and found evidence for romantic love in 89% of all cultures documented. They found no positive evidence of any culture in which romantic love did not exist.

Importantly, romantic love, as it is characterized in these studies, is not defined by its relation to the cultural practice of marriage. The cultures surveyed by Harris and Jankowiak and Fischer include societies that reflect the full range of variation in marriage ideology and practice, including arranged marriages, polygyny, collectivist societies that deemphasize the role of the conjugal unit, societies that demand chastity

before marriage and sexual fidelity within it, and those that accept and encourage short-term sexual relationships both before and after marriage. In all of these societies, the desire to find a unique other and to obtain an exclusive, if impermanent, emotional bond with that person is characteristic of people's personal feelings.

### **Valued Qualities in a Long-Term Partner Are the Same Across Cultures**

In a study of mate preferences conducted in 33 countries, David Buss and colleagues found that men and women everywhere rate mutual attraction and love above all other traits in a potential mate, followed by personal attributes such as dependability, emotional stability and maturity, and a pleasing disposition (Buss, Abbott, Angleitner, Asherian, et al., 1990). If coupling were a culture-specific practice, we would expect that the important qualities in a mate would vary with the mating system, but as with the ethnographic surveys, the researchers instead found substantial similarities in cultures exhibiting a wide variety of marriage practices.

### **The Desire to Form Couples Is Resistant to Ideologies to the Contrary**

Polygyny—one husband with several wives—is the ideologically preferred marriage system in over 83% of the world's cultures (Marlowe, 2000; Murdock, 1967). In most of these societies, however, only a very few of the wealthiest men are able to support a household of even two or three wives, leaving most individuals to form couples. This includes serial monogamy, in which individuals have several primary partners over time, but no more than one concurrently. This fact has led some individuals to suggest that humans, and particularly human males, lack adaptations for long-term pairbonding. In a long-term study of polygynous American Mormons, however, Jankowiak and colleagues found that even within this environment of strong ideological opposition to pairing there is evidence of the desire to form couples (Jankowiak & Allen, 1995; Jankowiak & Diderich, 2000). Despite the avowed primacy of community and extended family, wives compete jealously for the attention of their husbands and men find it difficult to perform their duties of attending to each of their wives equally when they find themselves forming a strong attachment to one of the wives over the others.

There are almost no societies that eschew the custom of marriage. However, the Na of China are held by many to be the exception to the rule. Hua has described the relationship ideology of the Na as one of "visits" (Hua, 2001). Men and women both remain in their natal homes their entire lives, with sisters tending the garden and cooking for their brothers, and brothers caring

for the herds, maintaining the house, and providing protection for their sisters and their sisters' children. Women may take several casual lovers throughout their lives; these men may "visit" but they never form a household with their lovers. Hua's ethnography, along with the autobiography of a Na woman (Namu & Mathieu, 2003), comprise most of what we know of the Na. Despite their explicit assertions to the contrary, both of these sources provide evidence that men and women do form emotional bonds and many remain in exclusive relationships for extended periods of time. For example, whereas both sources explicitly claim that individuals neither know nor are concerned with the identity of their biological fathers, the first-person accounts indicate most people *do* know who their fathers are. Men and women frequently maintain long-term, semi-exclusive relationships, and lovers may fulfill many of the obligations that brothers are expected to perform, such as completing repairs around the house and bringing gifts of food and manufactured goods. There is a strict ideology prohibiting jealousy—sexual relationships are not considered something to be proprietary over—and yet there are ample personal accounts of jealousy and the desire for exclusivity in these texts. Lulu Li (personal communication, October 5, 2004), an ethnographer currently working among the Na, confirms that even among the older generation, individuals describe long-term stable relationships as the norm. In sum, even the most extreme "exception" to the rule suggests that men and women are more likely to form lasting, semi-exclusive pairs than to pursue a lifelong strategy of casual, fluid relationships.

### **Is the Couple the Most Important Social Unit?**

Evolutionary approaches suggest that humans will possess a strong desire to form conjugal pairs, but nowhere in evolutionary theory do we see the prediction that one's romantic partner will serve all social functions. As DePaulo and Morris (this issue) themselves point out, much of the research in evolutionary psychology is devoted to studying kinships, friendships, rivalries, and coalitional alliances. A central assumption in most evolutionary approaches is that psychological mechanisms evolve in response to specific adaptive problems (Buss, 1991; Tooby & Cosmides, 1992). Thus, the mechanisms designed to find an appropriate mate are unlikely to be the same as those designed to choose friends or coalition partners, and both of these should be distinct, at least in part, from mechanisms designed to recognize and interact with kin—a *jack of all trades is master of none*. Likewise, no relationship can serve all functions equally well. There is, therefore, nothing from an evolutionary perspective that would suggest that all relationship roles can be

collapsed into a single partner. Each type of relationship serves its own unique set of purposes, guided by specialized adaptations.

### Social Implications of Adaptations for Coupling

Comparative, physiological, and cross-cultural evidence supports the hypothesis that humans have a suite of adaptations for forming conjugal pairs. There are several real implications of this hypothesis for understanding how singles and couples are viewed by others, some of which may fall within the bounds of *singlism*, as DePaulo and Morris (this issue) describe it. There are also implications that people might be tempted to draw that we believe would be erroneous.

### Fallacies and Misunderstandings

First, and perhaps most importantly, the fact that humans have adaptations for coupling does not imply the moral superiority of coupled individuals. Causal theories are descriptive, not prescriptive, and thus people must decide based on personal ethics and values whether coupling is desirable. The evolutionary perspective on coupling also does not suggest that coupling will result in a healthier or more satisfying life for any particular individual. Evolution appears to make use of positive and negative affect in steering people toward calorie-rich food sources, fertile mates, and esteem in the eyes of peers, but ultimately the criterion for selection is reproductive success, not well-being. Evolution produces offspring who in turn produce more offspring, regardless of whether this increases their happiness over the long run.

In the modern world, coupling also does not guarantee an on-average fitness benefit to couple members or their children. The psychological adaptations underlying coupling evolved in an environment that differed in many ways from the one in which we live now—one that included harsh and unbuffered environmental conditions and greater resource scarcity (Diamond & Bellwood, 2003; Kingdon, 1993, 2003). Furthermore, because what matters in evolution is the cumulative effect of selection aggregated across vast amounts of time, fitness effects may be modest or undetectable in any given generation, even if the environment is relatively unchanged (Symons, 1992).

Our argument also does not preclude the existence of evolved motivations for short-term sexual relationships (see, e.g., Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Symons, 1979), infidelity (Buss, 2000), or marital strife (Daly & Wilson, 1988). Nor does it mean that the desire to form a couple will always trump other evolved motivations, such as the desire to pursue alternative reproductive strategies, care

for kin, or strive for status. Our argument is simply that the motivation to form couples emerges from adaptations with deep evolutionary roots, and thus assumes a central motivational status for most humans.

### Real Implications

**Social judgments.** If coupling is as central as we have argued, one might also expect people to have a keen interest in whether others are coupled, if they are to whom, and if they are not to wonder why. DePaulo and Morris (this issue) present evidence that people perceive singles differently from those who are in relationships. Singles—especially people who have always been single and especially women—are viewed as less attractive, less well-adjusted, less mature, less sociable, less stable, and less happy than coupled individuals. We suggest that this bias exists because relationship status conveys information with reproductive relevance, and hence the bias is not arbitrary or new as the *cult* view might suggest.

DePaulo and Morris (this issue) lament the fact that we feel compelled to distinguish between different “types” of singles—always single, divorced, or widowed—when we do not create such distinctions between coupled individuals. However, in the mating market, whether someone has always been single reveals information about past, current, and future availability, and therefore his or her mate quality, whereas one’s civil status alone (currently mated vs. currently single) does not.

In the ancestral past, reliable inferences could be made about the mate value of individuals who had either never formed a mateship or were unable to maintain one. In an environment in which unpartnered females are a distinctive anomaly—as they are among all sexually reproducing species, including, until very recently, humans (Symons, 1979)—finding an unpartnered woman of reproductive age probably indicated that she was of exceptionally low mate value. This is true to a lesser extent for men, who may be left unpartnered more often than women because high-status competitors are able to amass reproductive resources via polygyny or serial re-mating with progressively younger women (Lockard & Adams, 1981; Mulder & Caro, 1983). The fact that women’s reproductive value is strongly linked with age also helps to explain why the coupling clock ticks faster for women than for men.

The information value of mateship status may be greatly distorted in modern society. In the modern West there are many exogenous reasons why a person might remain single. Attractive, intelligent, kind, and otherwise desirable individuals may be single because they are pursuing other challenges, such as the pursuit of prestige, resources, education, or other forms of personal fulfillment. Humans possess adaptations for pur-

suings many types of goals, but only a finite amount of time and energy, and thus people will make tradeoffs in time allocation. The sheer number of alternative courses of action available to modern humans, the advent of reliable contraception, and social norms promoting the pursuit of a career are likely causes of the rising tide of singles and the decision by many to remain single their entire lives. Even though the amount of information conveyed by single status may be decreasing, our evolved psychology still responds to these cues because of their value in the ancestral past.

**Scientific relevance.** It is also useful for scientists to differentiate between people who are currently single and those who have always been single to make sense of changing relationship practices and values. For example, DePaulo and Morris (this issue) cite recent demographic shifts in the numbers of singles as evidence that coupling is declining in importance. However, the data they cite has collapsed all individuals, age 18 and older. The fact that the number of always-single individuals in this group has increased dramatically over the past several decades is not really surprising, as the age at first marriage has also steadily increased. If one looks at both the incidence of marriage and of cohabitation, rather than marriage alone, there appears to be little decrease in the rate of coupling overall (Laumann, Gagnon, Michael, & Michaels, 1994). Thus, DePaulo and Morris's desire to erase the distinctions between always single and currently single actually blurs the fact that despite demographic shifts in such factors as age of marriage, rate of divorce, and preference for cohabitation, there is little evidence that the underlying desire to form couples has markedly changed.

**Ostracism of singles.** DePaulo and Morris (this issue) make the point that couples appear to shun singles in social interactions, claiming, "it is the couples who become the power brokers, deciding whether their single friends are to be included, and if so, under what conditions." We are not entirely convinced. The tendency of couples to socialize with other couples, and singles with singles, could result from mutual self-selection. Singles may be interested in finding a partner and they may prefer to spend time with others who share this interest and seek social situations in which it is satisfied. Couples might prefer to socialize with other couples, because couple members are already spoken for and thus pose less relationship threat. Single women may be seen as sexual threats to coupled women, potentially luring away their partners and their investments. Likewise, single men may pose a cuckoldry threat to coupled men. Although coupled individuals may also pose threats, singles of both sexes pose a double threat because they are more likely to be pursuing mating opportunities and because they are not

under the watchful eye of their own partner. These threats may be larger in the West, where mixed-sex socializing is the norm, than in other societies in which social groups are more likely to be segregated by sex than by mateship status (see, e.g., Abu-Lughod, 1986; Buechler & Buechler, 1996; Descola, 1993; Namu & Mathieu, 2003; Shostak, 1981).

### Lingering Curiosities

We have addressed only a few of the issues raised by DePaulo and Morris (this issue) and left much to be explained. We agree, for example, that there is something peculiar about the venerated status of the couple in today's American society. One of DePaulo and Morris's most striking observations is that in American society, we appear to have merged several social roles into a single relationship. As our evolutionary anthropologist colleague Dan Fessler has pointed out, in most cultures around the globe, your spouse is not your best friend, or even your primary social partner (e.g., Abu-Lughod, 1986; Buechler & Buechler, 1996; Descola, 1993; Errington & Gewertz, 1987; Namu & Mathieu, 2003; Rosenbaum, 1993; Shostak, 1981).

We also find it curious that singles are levied heavy economic taxes, and that the unquestioned social value of marriage for solving a multitude of social problems has led to billion dollar policies intended to promote it. A fruitful approach for exploring these institutionalized biases in favor of couples may come from examining the ways in which historically recent economic processes have affected the economic, social, and political role of the couple (see, e.g., Coontz, 1988; Oldenburg & Brissett, 1982; Wolf, 1997; Zaretsky, 1976). DePaulo and Morris's article (this issue) will bring welcome debate on these issues.

### Conclusion

Coupling is so pervasive, and thinking differently about singles so natural, that *singlism* has virtually escaped notice until now. DePaulo and Morris's provocative article (this issue) contains many observations that push us, both as social scientists and as casual social perceivers, to examine our assumptions. Singles are indeed treated differently and many features of the world seem designed more for the benefit of couples than for singles. This article will lead readers to contemplate why this is the case. DePaulo and Morris have also helped scientists to shift figure and ground by bringing singles—whose number is ever growing—into sharper focus.

Given their insights, one of the remarkable features of DePaulo and Morris's (this issue) analysis is that it is virtually devoid of theory that can unify their discoveries and ultimately explain them. We have argued that

an evolutionary perspective can help. There is ample evidence from the comparative, physiological, and cross-cultural studies supporting the hypothesis that humans have forceful evolved motives for forming reproductive bonds. In the mating market, mateship status is not a mere curiosity; it reveals reproductively relevant information about the availability and desirability of others. In seeking to explain scientists' failure to appreciate or understand *singlism*, DePaulo and Morris placed part of the blame on scientific perspectives like evolutionary psychology. We have challenged this, and thus we also suggest a shift in figure and ground in which the insights from evolutionary psychology do not obscure but illuminate.

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## Marital Status as Stimulus Variable and Subject Variable

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I have long been interested in the “psychology of being a victim of prejudice and discrimination” as well as the topic of interpersonal relationships. Given these twin interests, I welcomed the opportunity to comment on the article by DePaulo and Morris (this issue). DePaulo and Morris make an eloquent and passionate argument that (a) single people in

U.S. society are stigmatized and discriminated against; and (b) reports of married people being happier and healthier than their unmarried counterparts, especially single people, is a “myth” reflecting a cultural ideal that unfairly favors marriage over nonmarried relationships between adults. My commentary is organized around the two themes: marital status viewed as a “stimulus” variable (e.g., Are single people perceived more negatively than married people?) and also as a “subject” variable (e.g., Are married people happier than single people or not?).

### Are Single People Stigmatized?

According to the social science and psychological literatures, stigma is defined as having a spoiled identity, being perceived negatively by others, and being an object of discrimination owing to inferior outcomes such as less pay. If these consequences are indeed associated with single marital status in our society, we would indeed have cause for concern.

DePaulo and Morris (this issue) summarize their own research on the stigma of being single, arguing that single people are perceived negatively. It consists primarily of person perception studies in which research participants are asked to rate “stimulus persons” from brief descriptions of hypothetical people that mention several characteristics and vary the stimulus person’s alleged marital status and age, along with other “filler” features (e.g., hometown, profession) or descriptions of rental discrimination situations in which someone’s application for an apartment rental is declined and the stimulus person’s characteristics such as race or marital status are varied.

Unfortunately, since these studies by DePaulo, Morris, and their colleagues are as yet unpublished, it is difficult to evaluate their research. However, some months before this article was submitted to *Psychological Inquiry*, I asked for and received a prepublication version from DePaulo of the article by Morris, DePaulo, Hertel, and Ritter (2004) in which they present four studies of perceptions of people who are single, three of which are person perception experiments with two samples of University of Virginia students and a convenience sample of community residents from an Oxnard, California, shopping mall serving as participants. Two experiments used similar descriptions of the stimulus persons (e.g., “Dave is a 40-year-old artist living in Portland, Maine. He en-