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Female competition: Causes, constraints, content, and contexts

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Female Competition: Causes, Constraints, Content, and Contexts

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Monogamy tends to equalise mate competition between the sexes. However, women show greater restraint in their use of direct intrasexual aggression, which, I argue, is a result of their higher parental investment and the consequently greater reproductive cost of injury or death. Women usually compete for mates by advertising qualities valued by men (beauty and sexual exclusiveness) and by using indirect means of denigrating rivals (through gossip and stigmatisation). However, where well-resourced men are in short supply, women must find alternative sources of support or escalate their competition for male partners to physical levels. Data from criminology, psychology, evolutionary biology, and anthropology are used to support these proposals.

In this article I offer an interpretation of female competition from an evolutionary perspective. First, it is useful to briefly review prior social science research (not informed by such a perspective) to indicate the richness of the qualitative observations and the alternative positions taken to their interpretation.

Despite a recent surge of popular journalistic books (e.g., Fillion, 1997; Simmons, 2002; Tanenbaum, 2002), academic interest in competition among women was almost nonexistent until the 1980s. Initial research (Gilligan, 1982; Goodwin, 1980; Lever, 1976) found that girls tended to avoid competition in favour of tactics that diffuse conflict and preserve interpersonal harmony. When competition is made inevitable, girls used apologies and excuses to mitigate their behaviour (Hughes, 1988) or "double voicing" to promote their own cases while simultaneously taking into account the positions of their rivals, thereby preserving their relationships (Sheldon, 1992). This attenuation of competition in favour of sustaining positive relationships is thought to reflect socialisation into cultural norms against the overt expression of conflict among females (Miner & Longino, 1987; Tracy, 1991) and the greater centrality of intimate friendships to girls than to boys (Brown, 1998).

Research that has examined the focus of female competition identifies appearance, popularity, and preservation of a "good" sexual reputation as central (Brown, 1998; Eder, 1985; Merten, 1997; Simmons, 2002; Tanenbaum, 2002). These are intimately connected since popularity (which consists of "visibility" rather than liking; see Eder, 1985; Merten, 1997) is associated with physical attractiveness to the opposite sex (often reflected, in the United States, in achieving cheerleader status) but highly selective sexual availability. Girls, it is argued, come to "ventriloquise" patriarchal male attitudes about appropriate female appearance and behaviour (Brown, 1998), resulting in "raging misogyny." As Tanenbaum (2002, p. 47) puts it, "Many women compete over things they think men value, such as looking sexy . . . . The most dangerous outcome of this is self hatred; girls and women disparage themselves and dissociate from other females."

The present article sees competition as an inherent part of our biological status and women's lesser willingness to escalate competition to direct aggression as arising out of their particular biology rather than from conformity to cultural expectations of femininity. Because the vast majority of research has been done on young women in the United States and Europe, we lack the data to examine the cultural specificity or generality of female competition. Certainly sex differences in aggression are universal (Daly & Wilson, 1988), but competition can take other forms. Some work suggests that competition is more direct and physical among poor and minority women than among their middle-class White counterparts (Brown, 1998; Eder, 1990). However, this could be due to culture-specific gender expectations or greater competition resulting from higher levels of resource scarcity (as I discuss later). Although there is academic agreement on the foci of female competition, women's concern with relative attractiveness might result from the internalisation of patriarchal values or from mate competition. Again, cross-cultural data are needed. Problematically, men (and women) universally seem to agree on standards of female facial beauty, making it hard to choose between the two accounts (Langlois et al., 2000). Research certainly suggests that the current fashion for slimness is not imposed on women by men because men prefer plumper figures than do women (Anderson, Crawford, Nadeau, & Lindberg, 1992; Cohn et al., 1987; Fallon & Rozin, 1985; Furnham & Radley, 1989). Women also care more about other women's opinions of attractiveness than those of men (Graziano, Jensen-Campbell, Shebilske, & Lundgren, 1993), suggesting that within-sex competition can take on a dynamic of its own. Similarly, with regard to sexual conduct and reputation, a recent review concluded that women are stronger

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enforcers of the double standard than are men (Baumeister & Twenge, 2002), casting doubt on the proposal of internalisation of male values.

I turn now to an evolutionary approach to the understanding of female-female competition. Conflict can and does occur between the sexes; indeed women's rates of aggression (excluding homicide) toward partners equal those of men (Archer, 2000). Because the theoretical predictions and the foci of conflict are quite different, I do not consider them in the present article.

Causes of Female Competition

Sex differences in parental investment form the backbone of evolutionary accounts of sexual selection (Williams, 1966). Parental investment is any investment by the parent in an offspring that increases the chance of its survival at the cost of the parent's ability to invest in other offspring (Trivers, 1972). The higher investing sex becomes the resource for which the other sex competes. In 95% of mammals, females provide all the parental care (Clutton-Brock, 1991). Consequently, males compete vigorously for status and resources attractive to females.

Human sexual dimorphism suggests selection for male-male competition congruent with a history of mild polygyny. In common with other polygynous primates, men compared to women have broader canines (Frayer & Wolpoff, 1985) and are heavier (McHenry, 1994). Boys reach physical maturity later than girls and after puberty have larger hearts, skeletal muscles, lung capacity, lower resting heart rate and are capable of longer bouts of physical exertion (Tanner, 1990). In consequence they can run faster, jump further, grip more strongly, and throw faster and further (Thomas & French, 1985). While these sex differences might reflect division of labour and specialisation for hunting (Wood & Eagly, 2002), across species they appear to be more strongly related to the degree of male-male competition (Placvan & van Schaik, 1997a, 1997b).

Nonetheless, the majority of men today marry monogamously. In Western societies at least, both men and women value monogamy over short-term affairs (Miller, Putcha-Bhagavatula, & Pedersen, 2002). When Pedersen, Miller, Putcha-Bhagavatula, & Yang (2002) asked participants to indicate the number of partners preferred over the next 30 years, the higher mean for males reported by Buss and Schmitt (1993) was replicated but, crucially, the male distribution was very heavily skewed. When median values were examined, both sexes showed a preference for one partner and did not differ in the number of partners they preferred prior to settling down.

There is debate as to the origins of human monogamy. Monogamy may have been the result of male-female coevolution of reproductive strategies, initiated by female preference for investing males (Geary, 2000) resulting from the protracted period of human infant dependency (Miller & Fishkin, 1997). Ecologically imposed monogamy occurs where harsh conditions prevent many men from acquiring the resources to support more than one family and where male investment is necessary to ensure child survival. Such conditions are common; in societies where polygyny is legal more than 80% of men marry monogamously (Murdock, 1981). Socially imposed monogamy is characteristic of large stratified societies (Draper & Harpending, 1988). Because it equalises reproductive opportunities among men, it reduces male competition (Betzig, 1995; Ridley, 1993; Smuts, 1995).

Human cultures and individuals show marked variability in their marriage patterns (Alexander, 1979). Monogamy tends to benefit the majority of men while imposing costs on the minority who through wealth (Betzig, 1986) or genetic quality (Gangestad & Simpson, 2000) could feasibly improve their reproductive success by polygyny. Effective polygyny exists where male fitness variance exceeds that of females and it can be achieved via serial monogamy. Serially monogamous men produce more children then men who remain in a single partnership, but the same is not true for women (Forsberg & Tullberg, 1995). Men who marry twice are more likely to have children by both wives than are women to have children by both their husbands (Alexander, 1979). At the margins of monogamy, then, successful men leave more children than women. As Archer and Mehdikahni (in press) summarise the situation,

> ...the sex difference in size in humans is relatively small compared with that found in primates with a clearly polygynous mating strategy. Paternal investment is relatively high in humans (Geary, 2000), which would make them in some ways nearer to monogamous species, while still retaining a tendency towards polygyny.

Monogamy and biparental care reduce fitness variability among males. In pure form, they constrain a man's reproductive success to that of his partner. Given the heavy commitment that he will make in their joint progeny, it pays a male to be choosy. (Such choosiness does not apply to short-term sexual relationships; men are willing to drop their standards quite considerably when no investment is required of them [Kenrick, Sadalla, Groth, & Trost, 1990].) Monogamy means that sexual selection acts on both males and females. The investment costs sustained by both parties support discrimination in partner choice and mean that women must compete with one another to secure the best men, just as men vie for the best woman. "In theory and in practice, the dynamics of human mating involve female-female competition and male choice, in addition to male-male competition and female choice" (Geary, 1998, p. 121).

Constraints on Female Competition

Why then do women so rarely exhibit the kind of overt, sometimes lethal physical competitiveness among their own ranks that men do? The classic explanation of heightened intramale violence is predicated upon polygyny incentive: Males are competing for status and resources which are associated with the prize of fathering a disproportionate number of children (Daly & Wilson, 1988).

Low levels of female aggression are explained in terms of an absence of incentive for competition: Because males are willing to inseminate women promiscuously (where little or no paternal care is required of them) women have no need to compete for copulations.

A complementary view of sex differences in aggression in terms of reproductive costs focuses upon parenting rather than mating (Campbell, 1999, 2002). This proposal argues that the chief difference between the sexes lies in the costs rather than the rewards of within-sex aggression. The sex difference in aggression is found among nonhuman primates also (Smuts, 1987), despite the fact that there are clear advantages to dominant females. They reach sexual maturity earlier, first conceive at an earlier age, produce more offspring, have greater infant survival and live longer (Ellis, 1995; Pusey, Williams, & Goodall, 1997). The crucial factor is that in these female-bonded species (which include most primates but not humans; Rodseth, Wrangham, Harrigan, & Smuts, 1991), maternal rank is inherited rather than fought for. When direct challenge does occur, it does so under "minimal risk" conditions (Chapais, 1992).

Competition between women, as between men, is won in the currency of inclusive fitness. In men, inclusive fitness depends crucially upon sexual access, but in women the critical factor is the mother's ability to shepherd her offspring safely through the dangerous selection funnel of the juvenile period. In nonhuman primates, 70% to 90% of young born die before adulthood. In hunter-gatherer societies, approximately 50% of offspring born survive (Kaplan & Lancaster, 2003). This higher survival rate among humans is particular impressive because of the doubling of time spent in the most perilous phase of all, as juveniles. Central to the survival of the young are the choices and competence of the mother, who delivers the bulk of direct care (Hrdy, 1999). It is not surprising therefore that even under biparental care, the death of a mother compromises a child's life more severely than the death of a father (Hill & Hurtado, 1996; Sear, Mace, & McGregor, 2000; Voland, 1988). A careless attitude to one's own safety and survival has greater consequences on the reproductive success of a female than a male. Hence, selection has favored females who avoid danger because of the higher fitness costs of risking their lives.

Parenthetically, it is worth noting that while human females deliver the bulk of parental care, the critical factor in this argument is not sex per se. Allman, Rosin, Kumar, and Hasenstaub (1998) compared ten species of primates that varied in the amount of paternal or maternal effort they contributed to parental care. They plotted the survival curves for each species and found significant sex differences in life expectancy favouring whichever sex took most parental responsibility. They also ranked the primates in terms of which sex lived longer and by how much. The results showed that the amount of parenting was closely associated with female-to-male survival ratio.

But evolutionists do not argue that reward-cost decisions are calculated rationally or consciously. It is likely that the relevant adaptation occurs at an emotional level (Damasio, 1994; Loewenstein, Weber, Hsee, & Welch, 2001). Women's avoidance of danger is mediated by fear and associated behavioural inhibition. This may explain why women show higher rates of phobias and anxiety disorders than men (Arrindell, Kolk, Pickersgill, & Hageman, 1993), lower levels of sensation-seeking and risk-taking (Zuckerman, 1994), and lower engagement in dangerous sports and occupations (Wilson & Daly, 1985). Women are less willing to risk their lives than men.

The emotional rather than rational nature of this effect is confirmed by studies of risk. When studies of risk are dichotomised into those that are cognitive and abstract (e.g., what would the odds of success have to be before you would agree to an operation?) and those that employ immediate, emotion-based behavioural measures (e.g., distance of nearest approaching car in relation to willingness to make a turn across oncoming traffic), the sex differences are more marked in the latter (Byrnes, Miller, & Schafer, 1999). The emotional basis of the sex difference appears also in experimental studies of aggression. Women perceive the danger associated with an act of aggression as higher than men even in the same objective situation, and this perceived danger is a strong negative predictor of aggression (Bettencourt & Miller, 1996; Eagly & Steffen, 1986). It acts as a "brake" on aggression. In addition, psychopharmacological studies suggest that men's willingness to engage in risky and dangerous behaviours may be mediated not by the incentives but by an absence of inhibition. The neurotransmitter serotonin is implicated in behavioural inhibition, and low levels have been linked both to impulsive killings and to suicide (Moore, Scarpa, & Raine, 2002). In addition, there is a sex difference favoring women in the availability and uptake of this transmitter (Biver et al., 1996; Reisert & Pilgrim, 1991).

One way women can compete without risking their safety or compromising their lives is through acts that ostracise, stigmatise, and otherwise exclude others from social interaction without risking direct physical confrontation. Such acts do not eliminate or physically injure the target, nor do they demonstrate the greater size, strength, or belligerence of the attacker. They do, however, inflict stress and diminish the opponent's reputation and social support. The target is attacked circuitously and the aggressor can therefore remain unidentified. This set of behaviours is referred to as *indirect aggression* (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992) or *relational aggression* (Crick & Grotpeter, 1995). Girls exceed boys on measures of indirect aggression by the age of 11, and the sex difference continues to be present up to the age of 18. As male physical aggression diminishes with age, the sex difference in indirect aggression lessens and disappears in adulthood—at least among educated middle-class samples (Pellegrini & Archer, in press). These stigmatising and excluding strategies can have devastating effects upon the victim (Ahmad & Smith, 1994; Simmons, 2002).

An alternative interpretation of these sex differences might be that women's preference for indirect strategies is

a result of gender role prescription. Because women's direct aggression is seen as an aberration from the female stereotype, women might seek alternative means of expressing competition that are more acceptable. Osterman et al. (1994) reasoned that if a form of aggression was socially condemned, then children would be more likely to attribute it to their peers and less likely to admit to it themselves. They asked children to report on their own and their friends' use of various forms of aggression and then computed an Attributional Discrepancy Index by subtracting self-estimates from peer estimates for various forms of aggression. There was no sex difference for indirect aggression. This suggests that stigmatising and rumour spreading are no more socially acceptable for one sex than for the other. Another clue to the fact that indirect aggression is not simply the result of human socialisation is that other primate females use analogous techniques. Females have been observed to engage in sustained, low-level harassment of other females; the target is consistently interrupted and displaced as she tries to rest, feed, or mate. The resulting stress suppresses oestrus and can cause abortion (Chapais, 1992; Hrdy, 1981; Smuts, 1987), diminishing the reproductive success of the victim.

While the term *indirect aggression* emphasises the indirect nature of the attack and *relational aggression* highlights the manipulation of social relationships, both functions come together in the activity of "gossiping," or social evaluation about a person who is not present (Eder & Enke, 1991). Gossiping has been argued variously to disseminate information, entertain, establish norms, exercise social control, enhance in-group bonding, and act as a psychodynamic projective defence (Fine & Rosnow, 1978; Leaper & Holliday, 1995; Nevo, Nevo, & Derech-Zehavi, 1993). But it is also a potent form of indirect competition. When we gossip about another person we simultaneously achieve two goals. Most obviously, we spread information that is damaging to the other's reputation and so diminish his or her social standing. But the act of condemnation is also an act of self-promotion; one cannot credibly accuse a rival of behaviours that one engages in oneself. If gossip is a form of competition, then women should gossip about the domains about which they are most competitive and those, in turn, should be those qualities that are important to men in their choice of mates. The following discussion considers competition among young women at a time of intense competition for mates. Most published material is gained from this age group. Little is known about the foci of competition in older women, although this would be a valuable and fruitful area of enquiry.

The Content of Female Competition

In seeking long-term mates, men and women similarly award considerable importance to personal qualities such as intelligence and a sense of humour (Buss & Schmitt, 1993). However, men differ from women in the importance assigned to other attributes (Buss, 2000; Buss & Schmitt, 1993; Etcoff, 1999; Feingold, 1990).

Youth and Beauty

A universal feature of men's preferences is youth. After a period of adolescent sterility, women become most fertile at the age of 25 from whence their fertility declines until it reaches zero by the age of about 50. When adult males are asked about age preference, they consistently choose someone who is younger than themselves, and marriage patterns indicate that the typical age gap is about 3 years (Buss & Schmitt, 1993). But this 3-year gap is not a constant. Teenage boys rate a woman 5 years older than themselves as the perfect partner (Kenrick, Keefe, Gabrielidis, & Cornelius, 1996). As men age they prefer ever younger women, and by the age of 60 they prefer women who are on average 15 years younger than themselves (Kenrick & Keefe, 1992). Buunk, Dijkstra, Kenrick, and Warntjes (2001), however, found that men's expressed preference may be constrained by realistic pragmatism and the type of relationship. In line with earlier work, they found that 60-year-old men fantasise about and would have casual sex with women up to their 40s, but would be prepared to marry a woman up to the age of 55.

Men also place a greater premium upon physical attractiveness than do women, and this is closely bound up with age. Facial features that reflect youth include shiny hair, unwrinkled skin, large eyes, a small nose, and full lips. (Etcoff, 1999). A youthful, beautiful appearance is what women compete with each other to achieve. Historically, women have used lead, mercury, lemon juice, egg whites, milk, vinegar, kohl, and dye to enhance their facial features. In the United States, 88% of women over the age of 18 wear makeup designed to correct asymmetries, signal sexuality, and mimic youth (Etcoff, 1999). Eighty-nine percent of cosmetic surgical procedures in the United States are performed on women, including 91% of face lifts (Etcoff, 1999).

Tooke and Camire (1991) asked men and women about deceptive tactics used to compete with rivals and attract the opposite sex. While men competed with other men by exaggerating superiority, promiscuity, intensity, and popularity, women competed with other women by alterations to their appearance, such as makeup, nail polish, fake tans, and tight clothing (see also Buss, 1988a, 1988b). Walters and Crawford (1994) asked undergraduate subjects about competitive tactics that they used against members of their own sex. No explicit mention was made of competition for mates, but nonetheless women most often nominated, performed, and rated as effective the tactic of attracting attention to their appearance. Using diaries to examine the everyday experience of competition, Cashdan (1998) found that while men competed with other men in the arena of sports, women competed with one another in terms of their appearance. Attractiveness appears to be the currency of female competition even when no mention is made of what the competition is about.

A very strong factor in men's preferences is not just faces but bodies. Before puberty and after menopause, the ratio of waist to hips in women is about 1.0, but during women's fertile years it diminishes. The waist-hip ratio in the intervening years is associated with fertility (Singh, 1993; Zaadstra et al., 1993). Singh (1993) found that men's preferred female body shape was a 0.7 waist-to-hip ratio (WHR) and suggested that this preference reflected selection for health, youth, and fertility in a female partner. These findings have been well replicated (see Streeter & McBurney, 2003), but Tassinary and Hansen (1998) found that body mass index (BMI) is a stronger correlate of male preference than WHR. Critics have objected that WHR and BMI cannot be independently experimentally manipulated and that the results of statistically apportioning variance depend critically upon the range of values investigated for each variable. Streeter and McBurnley (2003) manipulated chest, waist, and hip size to examine five WHRs, with the effects of participants' weight estimates of the bodies removed. Body mass estimates explained about 66% of the variance in attractiveness ratings, but, independent of this, both sexes (and especially men) preferred a waist-hip ratio of 0.7. Medium-sized hips, waists, and chests were all preferred. Women use bras, corsets, and surgery to "normalise" perceived size anomalies and to exaggerate the apparent narrowness of the waist. Every year in the United States approximately 125,000 breast implant operations are performed. In evaluating their rivals, women attend particularly to their waist, hips, and legs (Dijkstra & Buunk, 2001).

Men's preference for thinness has also been examined as a dimension of female competition. Although anorexia has in the past been investigated in terms of media influences, family interactions, anxiety about sexual maturity, and perfectionism (see Polivy & Herman, 2002), evolutionary psychologists have proposed that it may represent a dysfunctional form of female competition (Mealey, 2000). Abed (1998) suggested that sexual selection would favour women who preserved a nubile shape that signalled their continued youth and fertility. This might be mediated by anxiety about weight gain, which would be exacerbated by higher levels of competition in Western societies where delayed reproduction and longer interbirth intervals mean that women retain their nubile shape until older ages. Although studies of eating disorders and social climates have not supported the competition hypothesis (Connor-Greene, Striegel-Moore, & Cronan, 1994; Striegel-Moore, Connor-Greene, & Shime, 1991), competitiveness as a personality trait has been found to be related to eating disorders (Striegel-Moore, Silberstein, Grunberg, & Rodin, 1990), and interpersonal competitiveness (the desire to do better than others) is a stronger correlate than goal competitiveness (the desire to excel; Webber, 2003).

If physical appearance is so critical to men's choice of mates, women should not only compete with one another to meet men's criteria but they should also use gossip as a way to derogate rivals. Women gossip about others more than do men (Bischoping, 1993; Eckert, 1990; Levin & Arluke, 1985). Female dyads have a higher rate of negative gossip than male or mixed-sex pairs, and the conversational partner in female dyads more often gives a strongly encouraging response to gossip initiation than in the other two groups. My interest, however, is specifically in the *topics* that women's groups and men's groups discuss in connection with others. Although Levin and Arluke (1985) reported no sex differences in discussion of other people's appearance, they did not examine the sex of the target of the gossip. Hence, participants may have been evaluating the opposite sex's appearance, rather than criticising members of their own sex. Martin (1997) recorded conversations between male, female, and mixed-sex dyads and (after removing obvious gender cues) asked participants to identify the sex composition of the pair. They were able to do this with greater than chance accuracy. The chief cue they used was the topic of conversation: Women more often than men discussed matters relating to others' appearance. Of the top 10 topics, 4 of women's were appearance-related (31% frequency of mention) while only 2 of men's concerned appearance (11% frequency of mention). Nevo et al. (1993) developed a Tendency to Gossip Questionnaire (which confirmed that women gossip more than men). Only one of the four factors derived from principal components analysis showed a significant sex difference and that was Physical Appearance. None of these studies, however, specifically examined the sex of the gossipee. Hall (2002) found that physical appearance was more often discussed by both sexes in relation to female targets, while possessions and intelligence were most often discussed in connection with men.

Buss and Dedden's (1990) work took an explicitly evolutionary approach to gossip, viewing it as a tool of intrasexual competition. They asked participants to suggest things they would do if their aim was to make members of their own sex undesirable to the opposite sex. They identified 28 tactics. One of these was "derogate competitor's appearance." Further groups of subjects judged this tactic significantly more likely to be used by females in general, and women more than men reported that they were likely to use it themselves. Naturalistic studies concur that pejorative comments about other girls' appearance rank high in girls' topics of gossip (Brown, 1998; Duncan, 1999; Owens, Shute, & Slee, 2000; Simmons, 2002).

Fidelity

A woman's chances of securing a desirable long-term mate depend in large part upon the mate's evaluation of her likely future fidelity. Since the best predictor of future behaviour is past behaviour, a woman's past willingness to engage in casual sex is information that is likely to carry considerable weight. That is why terms such as "slag," "tart," or "whore" are powerful sources of reputation challenge among women (Brown, 1998; Campbell, 1982, 1995; Duncan, 1999; Lees, 1993; Marsh & Patton, 1986). Wilson's (1978) study of working-class teenage girls found that sex without at least lip service to marriage

placed the girl in danger of developing a sexual reputation. The girls themselves were vocal in enforcing this code. "The girls regulated their contact with other girls who were known as 'lays' in order to preserve their own reputations. In fact they openly ridiculed the girls referring to them as 'whores'" (Wilson, 1978, p. 70). Fifteen years after this study, teenagers were still alert to the distinction between nice girls and tarts and avoided friendships with sexually available girls for fear of reputation-by-association (Lees, 1993). Boys continued to make the same distinction between prospective wives ("Not someone who's been out with people I know"; Lees, 1993, p. 139) and slags ("You wouldn't go out with her, you would just knock her off"; Duncan, 1999, p. 54).

Indeed, girls themselves actively collude in enforcing the double standard not only through distancing themselves from "easy" girls but through gossip and rumour spreading (Coleman, 1961; Du Bois-Reymond & Ravesloot, 1996). Buss and Dedden's (1990) study found that young women were judged more likely than men to question a rival's fidelity and to draw attention to her promiscuity. Nor is such gossip about sexual reputation confined to "nice" middle-class girls (Millhausen & Herold, 1999). Members of street gangs in deprived inner-city areas show the same concern (Campbell, 1984; Hanna, 1999).

> [T]he girls have very distinct notions and expectations of other female members' appearance and conduct that are clearly tied to their sexual reputation.... At times, they can be more judgemental regarding other girls' respectability than their male counterparts...we find gang girls spending a great deal of energy 'bitching' or casting doubt on others' reputations. This cross-cultural process operates not only as a mechanism of social control, but also of distancing and confirming one's own reputation. (Joe Laidler & Hunt, 2001, p. 668)

Feminists have struggled to understand the continuing potency of accusations of sexual accessibility. With the inequity of the sexual double standard acknowledged, "slut" should have lost its power long ago. But even today, young women are deeply offended by such accusations, and emancipated attempts to turn the same accusation of excessive sexual experience on men simply provoke laughter (Duncan, 1999, p. 53). Unlike young women, sexual conquests enhance rather than detract from a young man's reputation.

When physical fights do occur among young women, they are frequently a response to gossip spread about a girl's sexual reputation (Campbell, 1982; Duncan, 1999; Marsh & Paton, 1986; Owens et al., 2000). As Lees (1993, p. 267) notes

> ...a girl reacts by denying the accusation rather than by objecting to the use of the category. For them what is important is to prove that you are not a slag: what they unquestioningly accept is the legitimacy of the category of slag. In other words, the category has uncontested status.

Such accusations place girls in a strategically awkward situation. It is virtually impossible for a girl to demonstrate the falsity of the accusation. If she publicly confronts the boy she is alleged to have had sex with, he has every reason to lie and it is his word against hers. If she refuses to rise to the bait and respond to the remark, she is taken to have tacitly admitted the truth of the accusation. If she admits the act but repudiates the double standard used against her, what others view as her "free and easy" attitude to sex may further damage her reputation. The best she can do is to forcefully repel anyone who labels her as a tart and so minimise the likelihood of such a reputation attack being repeated.

The Contexts of Female Competition

Evolutionary accounts are sensitive to the fact that any evolved mechanism interacts with environmental factors. With respect to mate competition, many variables affect a young woman's strategy, including her family structure and circumstances (Belsky, Steinberg, & Draper, 1991), age, sexual maturity, and mate value (Campbell, 1995). Here I briefly consider how one ecological factor (resource availability) can alter reproductive timing and the intensity of female competition.

As we have noted, women require assistance in raising children and all the more so in contemporary Western nations where an artificial barrier has been erected between women's roles as mothers and as workers. As Hrdy (1999) points out, women in traditional hunter-gatherer societies are able to forage locally and to care for their children at the same time. The requirement that women now abandon their children and travel to a child-free site to work for 8 hours a day has created a situation that benefits neither mothers nor children. The problem has resulted in a bifurcation of women's reproductive strategies. One route is to delay childbirth, a choice often made by those whose income is high enough to guarantee future advantages for their offspring (private schooling, tertiary education). But among women facing minimum wage employment or survival on state benefits, delayed reproduction promises no economic benefits for their children. Early childbearing has positive advantages (Geronimus, 1996). Adult mortality is one of the strongest predictors of reproductive timing (Low, 2000), and in poor Black populations in the United States, mortality and morbidity are high. With age, poor health increases the difficulties of both conceiving and raising a child. A woman who gives birth at a younger age also improves the likelihood that her own mother will be alive to provide assistance. By the age of 20, the probability of a Black woman's mother being alive drops to only 40%, compared to 75% during the teenage years (see Low, 2000).

But why do so many young women in poor communities rely on maternal assistance? First, there is a severe shortage of men. In the 20 to 29 age group there are 85 Black men for every 100 women, compared to 99 among Whites (U.S. Bureau of the Census, 1995). The ratio has been worsening since the 1920s, and the current situation is a confluence of high mortality and incarceration rates

(Tucker & Mitchell-Kernan, 1995). Second, young women are understandably reluctant to marry men who have few material benefits to offer (Cherlin, 1981). Between 1970 and 1990, the proportion of Black women who had ever married dropped from 83% to 63%. The high proportion of births to Black single mothers (which rose from 42% to 70% between 1960 and 1989; U.S. Bureau of the Census, 1992) was chiefly the result of a declining rate of marriage rather than an increase in the birth rate to younger women (Weinraub & Gringlas, 1995). A husband who makes no financial contribution is not merely economically neutral. The wife is effectively paying for the privilege of his presence and, given the still modest contribution of men to household duties, she is likely to receive little in return. Statistical and ethnographic studies of the Black underclass in the United States have documented the male response to such situations (e.g., Anderson, 1981; Glasgow, 1981; Wilson, 1987). Unable to effectively contribute in the home and viewing it as a female preserve, the men pass their days in the streets talking, drinking, and attempting to salvage some pride—if only in their ability to attract women despite their conspicuous absence of resources. Divorce rates among Black Americans are higher than among other ethnic groups (Norton & Glick, 1979). In 1990, there were 358 divorces per thousand among Black women compared to 166 among U.S. women as a whole (Tucker & Mitchell-Kernan, 1997). The lower the rate of male employment, the higher the rate of female-headed households with children (Sampson, 1995). Anxiety about the ability to provide has been found to be a strong contributor to marital instability among African Americans (Hatchett, Veroff, & Douvan, 1995). However, when the effects of poverty and family size are controlled, Black partners are *less* likely to separate than Whites (Hampton, 1975). This underlines the central importance of economic rather than cultural factors in mating tactics. Black men earn less, are unemployed more often, and occupy low status positions—all of which make them economically dispensable (Wilson, 1987). With economically supportive males thin on the ground, young women often seek support from female kin (Apfel & Seitz, 1996; Leadbeater, Way, & Raden, 1996).

But this strategy seems to be a second-best choice. Tucker and Mitchell-Kernan (1997, p. 2) note that the "striking decline in marriage entry among Blacks has not been accompanied by a devaluing of marriage as an institution, but rather recognition of constraints on the ability to marry." Ethnographic studies of young underclass women affirm that their ideal situation is a solvent and stable husband (Campbell, 1984; Miller, 1986). Street hustlers and gang members, far from rejecting traditional roles, continue to aspire to a situation where they can raise their children in economic and emotional security.

> We are looking for working men basically. Men that want to work and are going to be responsible. Like if they get us pregnant we want them to stay with us. Whereas the men that we are left with are the street niggers that wear gold rings, wear gerry curls. You see, I am just with him because that is the environment that I am in, and I am trying to get out of this environment. I would like to have a man. Not no nigger that wants to beat me and makes me make money all the time and give it to him. I want somebody you know that cares about me and loves me, and loves my kids and helps me raise them, and give them a good family." (Joe Laidler & Hunt, 2001, p. 674)

These young women's plight derives from an operational sex ratio that is skewed in the direction of too few "good" men (Campbell, 1995). Homicide, accidents, drug addiction, incarceration, and unemployment mean that young women in deprived urban areas are pitted against one another in an intense competition. The results are twofold. First, the paucity of good men puts them in a seller's market where they are able to impose their preferred promiscuous mating strategy on women (Guttentag & Secord, 1983). Cross culturally teenage girls are more likely to become pregnant where there is a shortage of men (Barber, 2000). Although women may succeed in extracting short-term resources in return for sex with "high rollers" (Taylor, 1993), these men are unlikely to remain and assist with child-rearing, forcing women back to their mothers for practical and financial assistance.

A second consequence is that intensified female competition, usually managed by display and indirect aggression, can escalate to physical levels. O'Brien (1988) generated predictions about the expected distribution of male-on-male and female-on-female crime based on the proportion of each sex in the population and the sex of violent offenders. He found that women commit simple and aggravated assault against other women more often than expected by demographic predictions, especially in instances of simple assault. An examination of juvenile female crime in the United States found that the majority of victims of violence (70 – 75%) were other females predominantly of similar age to their attackers (Bureau of Justice Statistics, 1999; Federal Bureau of Investigation, n.d.), and this is equally true in Britain (Home Office Research and Planning Unit, 1995, p. 8). A number of studies (Campbell, 1986a; George, 1999; Home Office Research and Planning Unit, 1993; Home Office Statistical Bulletin, 1996) concur that female-female fights are usually between young similarly aged women (15-24 years old) who are acquainted. They occur chiefly in drinking establishments or in the streets and involve non-weapon, hand-to-hand tactics such as pushing, shoving, grabbing, tripping, slapping, kicking, and punching.

But what are they fighting about? Campbell (1986a) found that the most common category (accounting for 46% of fights) was an attack on the girl's personal integrity which included instances where there had been allegations about the girl's promiscuity, false accusations, or pejorative gossiping behind her back. The next most common category was loyalty, in which the girl fought to defend the name of a friend or relative who had been the butt of an integrity attack. The third most common category was jealousy about a romantic partner (12%).

Violence occurs disproportionately among the underclass (the long-term unwaged) where competition for resources is highest (Brownfield, 1986; Campbell, 1986b; Farnworth, Thornberry, Krohn, & Lizotte, 1994). The particular salience of economic factors in explaining female-female assault was examined by Campbell, Muncer, and Bibel (1998). Using data from 34 reporting districts in Massachusetts as their units of analysis, they examined female-female assault in relation to rates of male and female unemployment, receipt of Aid to Families with Dependent Children (AFDC), and the prevailing sex ratio. A female-biased sex ratio was associated with higher levels of AFDC receipt—a payment made overwhelmingly to single mothers and an index of male desertion. Both AFDC and female unemployment were significant predictors of female-female assault, suggesting that as women face greater poverty and are unable to support themselves, rates of intrasexual assault rise. Though we cannot from these data know the triggers for such assaults, cross-cultural evidence (both quantitative and qualitative) supports the view that women's dependence on men increases competition for resource-rich males (Burbank, 1987; Schuster, 1985). Among the very poorest sections of society, the intensity of competition for "good" men drives young women from display and gossip to outright attack. But even here, the disparity in severity remains. Women are far less likely than men to use weapons and to inflict serious injury (Bureau of Justice Statistics, 1999; Federal Bureau of Investigation, n.d.).

Conclusions

Female competition, once a politically taboo subject, assumes central theoretical importance in evolutionary psychology. All animals must compete when resources are scarce and that includes women. Women manifestly have the ability to detect rivals and to employ a variety of tactics to place themselves at an advantage over them. The twin questions that have vexed traditional psychology are how to explain women's lesser aggression relative to men and how to offer an account of the circumstances under which women can and do use aggression. I have argued for a single model that can explain both effects. Women aggress less frequently than men because their threshold for the expression of competition as overt aggression is set higher, and this is an evolved adaptation that has served to increase women's reproductive success. Women can and do use physical aggression where the competition for reproductively relevant resources becomes extreme. This model directs attention to the specifically female costs and benefits of "crossing the line" into overt aggression, and in doing so sets out predictions about the triggers that are salient to women but not men. Men more than women should be concerned with publicly visible dominance rank (and threats to it through affronts and humiliation), since this has considerable implications for their mating strategy and is a trait that affects female choice. Women more than men should be concerned with enhancing their physical appearance and guarding their sexual reputation, since this has similar implications.

This model can be tested against alternative arguments framed around conformity to culture-specific gender stereotypes (with regard to aggression) and internalisation of patriarchal values (with regard to competitive foci). To do so, cross-cultural data are needed. While an evolutionary model highlights variability as stemming from ecological factors that diminish or intensify competition (such as operational sex ratio, need for biparental care), alternative models view variability as resulting from culturally variable gender stereotypes and the societal degree of patriarchy. However, cultural changes during the last 50 years have not had a dramatic effect upon female competition. Relaxation of feminine stereotypes in the 1970s did not lead to a rise in female violence (Steffensmeier & Allan, 1996). The ideology of free love would be expected to decrease womens' concern about sexual reputation, but it did not (Tanenbaum, 1999; Wolf, 1998). The double standard endures, and women express greater reservations about promiscuity (Smith, 1994) and greater regret after one-night stands (Townsend, 1995) than do men. Studies of individual differences within cultures can also be useful. An evolutionary model would suggest that relevant variables might include markers of mate value such as physical attractiveness and sexual maturity. A cultural model would point to individual differences in gender role conformity and internalisation of patriarchal values. As academic interest in female competition grows, let us hope that the relevant data will be forthcoming.

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