

Commentary

The Mating Game Isn't Over: A Reply to Buller's Critique of the Evolutionary Psychology of Mating

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Eager undergraduates who are just learning about critical thinking will often raise their hand in class and say something like: “Wait, it can't be true that men prefer young women! The frat guys I know all date 20-year-old sorority sisters, but my widower grandfather dates a 45-year-old kindergarten teacher!” They fail to understand the *ceteris paribus* qualification that goes with all research—that is, that all else is held equal. In *Adapting Minds*, philosopher David Buller makes just such a logical error the cornerstone of his attack on research in evolutionary psychology. Buller sets out “to show not only that the theoretical and methodological doctrines of Evolutionary Psychology are problematic, but that *Evolutionary Psychology has not, in fact, produced any solid empirical results*” (Buller, 2005, p. 15, emphasis added). However, his critique, though admirably zealous, is riddled with flaws. As Holcomb (2005) has recently said, this “is an important book that has the potential to be very damaging to public reception of the present science [of evolutionary psychology] unless researchers can defend their work by engaging the content of the critique...[T]he leaders of the field, and those researchers who know their work well, should beat the press to the punch and defend their work” (pp. 392 and 398). In that spirit, we present a reply to the most egregious errors and missteps that Buller makes in his criticisms of evolutionary psychologists' hypotheses and empirical evidence on mating.

After what might seem like a reasonable review of the mate preferences literature, Buller concludes that evolutionary psychologists are mistaken in their claims of a universal male preference for relatively young women as mates and a universal female preference for high status men as mates. Male mating preferences, Buller argues, although sometimes containing a preference for young women, are far more complicated. We agree with this conclusion, but not because he demolishes the empirical evidence, or because his theoretical acumen is sharper than the many evolutionary psychologists who have written on this issue. Instead, we agree because the “alternative” he proposes is essentially the reigning consensus among evolutionary psychologists. He fails to understand that evolutionary psychologists also believe that people in different situations will behave differently. For instance, college aged fraternity boys and elderly widowers face different circumstances and are at different life-history stages; no one would expect them to have identical mates. Regarding the female preference for high status males,

Buller goes even further, arguing that it is in fact non-existent—an artifact of skewed samples and mating preferences for similar others. In this conclusion, he is simply wrong, and we present evidence explaining why below. Indeed, much of the evidence we will cite is in papers he cites during his criticism, except that he repeatedly misconstrues the findings along the way.

Men Do Prefer Young Women

Evolutionary psychologists do in fact have theoretical and empirical reasons for believing that men are attracted to relatively young women. This phenomenon is linked to universal sex differences in life-history strategies. Life-history strategies refer to the allocation of resources to physical development, mating, and parenting over the lifespan. Because women more than men invest physiologically in offspring and because women's reproductive capacities suffer a much more severe age-linked decline than men's (for instance, women undergo menopause), men, relative to women, are predicted to have a stronger preference for younger mates (e.g., Buss, 1989; Symons, 1979). Women in their early 20s are maximally fertile (although women in their late teens have greater reproductive value, i.e., number of possible children remaining). As men age there is an increasing disparity between their age and the age of maximally fertile women. Therefore, as men get older, they should progressively increase their preference for women who are younger than themselves (Kenrick and Keefe, 1992). For various reasons, men's ability to create and invest in children does not decline in the same way as women's, so women are not expected to show as extreme a preference for young men. Besides a preference for youth, evolutionary psychologists have argued that males (and females) will also have preferences for a mate who is similar (Buss, 1984; Figueredo et al., 2005; Kenrick and Keefe, 1992). This is expected partly because "extended interactions over long periods between mates would have been easier if the partners had similar expectations, values, activity levels, and habits" (Kenrick and Keefe, 1992, p. 85). As males get older, these preferences work at increasing cross-purposes: For a 50-year-old male, females in their late 40s and earlier 50s may be more similar in personality and life experiences, but females in their 20s are more likely to bear offspring.

Across 37 different cultures, Buss (1989) found that, on average, males preferred a mate who was about two and a half years younger. Buss also found that actual ages at marriage closely paralleled the stated male preference. Several studies by other evolutionary psychologists have suggested that this average discrepancy can be a bit misleading as a description of age preferences for people who are older than 30, or younger than 20 (Essock, 1989; Kenrick, Gabrielidis, Keefe, and Cornelius, 1996; Kenrick and Keefe, 1992; Otta, Queiroz, Campos, daSilva, Silveira, 1999; Wiederman and Allgeier, 1992). Using a variety of sources—singles ads and marriage statistics from cross-national and cross-generational samples—Kenrick and Keefe (1992) found that men in their 20s preferred or married women of roughly their own age, but as men aged they preferred or married women who were progressively younger than themselves. For instance, men in their 60s on the island of Poro (data were from the years 1913 to 1939) married women who were about 20 years younger. Although older men do prefer younger women, not all men seek out and/or marry women in their 20s. Kenrick and Keefe expected this based on a number of factors, including the countervailing preference for similarity, as well as the constraints of mutual choice (there is generally little to be gained by seeking a marital partner who is not likely to reciprocate your interest, and elderly men, regardless of their own preferences, may not be able to attract young attractive females).

To further test the hypothesis that men prefer fertility rather than relative youth per se, Kenrick and colleagues (1996) interviewed adolescent males about who they would find attractive as a dating partner. These adolescent males indicated that females *older* than themselves—women in their early 20s—would be maximally desirable, although they also expressed awareness that those women would not likely reciprocate their interest. For males at this age, it is relatively older women who are maximally fertile. Men thus do not seem to be following a cultural rule that dictates “mate with a younger woman.” Instead, based on these studies and others, evolutionary psychologists concluded that males prefer young women as mates because, at most points in a male’s life, relative youth is a cue to fertility.

Buller argues that evolutionary psychologists have drawn the wrong conclusion. He believes that males are not guided missiles, locked on only to youth and beauty. Instead, he argues that future research will uncover a male mating psychology that is “far more complex than Evolutionary Psychology makes out” (2005, p. 224). As an alternative explanation, Buller proposes two hypotheses that, when integrated, purport to explain all of the findings that evolutionary psychologists have generated. Buller first proposes the *age-adjusted homogamy hypothesis*, based on a suggestion by Janet Leonard (1989). Buller notes that there is a strong tendency for people to mate with others who are similar on many dimensions. (Indeed, this has been long known by both traditional and evolutionary social scientists.) As noted by Leonard, males reach reproductive maturity more slowly than females. Additionally, even when physiologically mature, it may take several more years for males to be in a position to attract a mate due to intense intrasexual competition and the need to hone skills and acquire resources. Based on these two facts, Buller proposes the age-adjusted homogamy hypothesis: evolution designed humans to mate with similarly aged others, but to offset this by a few years to make up for the relative immaturity of males. This would explain the small but consistent age difference Buss found across cultures.

However, as Buller acknowledges, the data collected by Kenrick and colleagues rule out this hypothesis as the sole explanation for males’ mate age preferences. The age-adjusted homogamy hypothesis does not explain why as men age they prefer progressively younger women. But Buller also believes that there is unexplained variability in Kenrick and Keefe’s (1992) data that the hypothesis from evolutionary psychology can’t explain. Critically, according to Buller, some older men seem to prefer or actually marry women who are post-reproductive or close to it. To account for this effect, for changes in males’ preferences for age as they themselves age, as well as for variation in male preferences within a given age range, Buller proposes the *hypothesis of shifting reproductive effort*. Under this hypothesis, some men are engaging in *mating effort* and others are allocating energy to *parenting* and *grandparenting effort*. *Mating effort* includes all expenditures designed to attract a mate and sire offspring. *Parenting* and *grandparenting effort* include expenditures in one’s own offspring or in one’s grandchildren. Thus, adolescent males, 20-year-old males, and even some 60-year-old males are investing entirely in mating effort and therefore are targeting women of high fertility (always with the constraint of the similarity preference, thus diminishing older men’s desire for much younger women). Other men are investing in parenting effort and, when they have grandchildren, grandparenting effort. In particular, Buller states that when a male is investing all of his energy in grandparenting effort and nothing in mating effort, he will follow the age-adjusted homogamy hypothesis (Buller, 2005, p. 223). This is because these men are essentially looking for a long-term cooperative partner and not a reproductive mate per se.

In its generalities, we are in agreement with Buller's theory. Men play different reproductive strategies at different times in their lives. Younger men are more likely to be playing a strategy emphasizing mating effort, and older men a strategy emphasizing parenting and grandparenting effort. However, this isn't new or an alternative—it's the prevailing consensus in evolutionary psychology. Because Buller does "not examine...claims about short-term mate preferences" (p. 208), he avoids discussion of evolutionary psychologists' theories about when and why males will play different strategies. His lack of attention to the data on short-term preferences is puzzling, considering that like these theories he ignores, Buller's own theory includes a short-term mating component.

Compounding the problem is the false distinction Buller draws between "Evolutionary Psychologists" and "evolutionary psychologists." Buller is a self-proclaimed champion of "evolutionary psychology" and all of his critiques are aimed squarely at "Evolutionary Psychology." (It's noteworthy that evolutionary researchers far-flung from his narrow "Evolutionary Psychology" also hypothesize that men evolved to prefer attractiveness and women status in mates.) He often criticizes "Evolutionary Psychologists" by using theories and data generated by "evolutionary psychologists." Yet many of these supposed "alternatives" are already widely accepted by "Evolutionary Psychologists." But enough with the scare quotes. All of these researchers are part of a large, sprawling, heterogeneous scientific community that includes psychologists, anthropologists, biologists, and others. Like many scientific communities, evolutionary psychology includes a large set of shared assumptions and conclusions, and a healthy number of scientific disputes. Many—if not all—of the alternatives that Buller cites fall into the shared assumptions category. (Although Buller's book is filled with such "alternatives," the most notable for the present discussion is the *grandmothering hypothesis* advanced by Kristen Hawkes and colleagues, and the more general *grandparenting hypothesis* advanced by others.)

Buller's call for more complex theories is strange given that there are already several evolutionary psychological theories about the different strategies that men and women play and how these strategies vary across the lifespan, across relationship types, and due to individual differences. All of these theories provide more precise and well-tested formulations about when and why different strategies are played than do Buller's theories. Although there is not space to review them here, they include Sexual Strategies Theory (Buss and Schmitt, 1993), the Strategic Pluralism Model (Gangestad and Simpson, 2000), and the Qualified Parental Investment Model (Kenrick, Sadalla, Groth, and Trost, 1990). All of these theories also help explain why some men continuously "choose" to stay with their mate: The evolved male mating psychology includes facultative mechanisms for deciding when to stay with a mate to invest in joint offspring and when to leave. Many of these theories propose that for some men, it will pay more to stay in a long-term mateship to raise offspring than it will to leave and search for new mates (e.g., Gangestad and Simpson, 2000). Indeed, Kenrick and Keefe (1992) spend several sections of their original age-preferences paper discussing factors that cause human males to play different strategies and outlining future extensions that could account for more variability in their data. They go to great pains to point out that they are not making a guided-missile hypothesis: "It should be clear from [our] discussion that we do not consider age preferences in males and females to be based only on some simple 'hard-wired' mechanism...Evolved mechanisms require environmental inputs to develop and environmental inputs to trigger them, and they may be enhanced or inhibited by other relevant factors in the immediate or the developmental environment" (Kenrick and Keefe, 1992, p. 86).

Finally, the new specifics Buller introduces are incorrect or, at best, superfluous. Only the age-adjusted homogamy hypothesis has the potential to account for previously unexplained data, although, as we discuss below, it's doubtful that it does. Under Buller's theory of shifting reproductive effort, many men are following exactly the prediction made by evolutionary psychologists that they would prefer reproductively valuable women.

As previously recognized by evolutionary psychologists, some men make shifts to parenting effort as they enter long-term mateships and have children. Because Buller apparently believes this hypothesis falls outside the purview of "Evolutionary Psychology," we quote from David Buss' textbook, *Evolutionary Psychology*. Buss (who Buller fingers as a prominent "Evolutionary Psychologist") notes that evolution is expected to have designed "parental mechanisms of motivation designed to ensure the survival and reproductive success of the invaluable vehicles that transport an individual's genes into the next generation" (pp. 189-190, Buss, 2004). Buss is of course not alone among evolutionary psychologists in noting that psychological mechanisms for parenting are important human characteristics (see, e.g., Bugental, 2000; Geary, 2000). Because all organisms have finite amounts of resources, when any organism begins investing in offspring, it must—by necessity—invest less in mating effort. Any time an evolutionary psychologist makes an argument that humans invest in their offspring they are implicitly (and often explicitly) making a statement about tradeoffs in mating versus parenting strategies.

Nor is the idea of grandparental investment new to evolutionary psychologists. Buss (2004) states that "grandparenting has been a recurrent feature of human evolutionary history" (p. 224) and that "evolutionary psychologists have turned to explaining...variability in grandparental investment—a prime locus for evolved psychological mechanisms" (p. 235). In another textbook entitled *Evolutionary Psychology*, Steven Gaulin and Donald McBurney (2004) describe the specific research conducted by Hawkes and her colleagues (Hawkes, O'Connell, Blurton Jones, 1997; Hawkes, O'Connell, Blurton Jones, Alvarez, Charnov, 1998) that spurred Buller to include grandparental investment as part of his theory.

At this point, Buller could point out that we still haven't explained why older men often prefer women who are relatively younger but still post-reproductive or close to it, and that his hypothesis of age-adjusted homogamy does explain this. Remember, by this hypothesis, men investing solely in parenting and grandparenting desire women who are just a few years younger than themselves. However, we believe that his hypothesis is an unnecessary addition and that the phenomena could easily be explained as a by-product of other effects. First, it's not at all clear that a 63-year-old man and a 61-year-old woman would be different in maturity. During the teen years and early 20s, there may be a large enough maturity gap that a few years age difference would be needed to offset it. But as humans age, it should take a smaller and smaller age difference to offset the maturity gap. By the time humans are in their 60s, practically no age difference should be required because the maturity gap has essentially disappeared—it seems that precisely the life-stage where Buller's age-adjusted homogamy hypothesis is most likely to explain any residual variability (see Buller, 2005, p. 223) is precisely the life-stage where it is least likely to operate! Counter to the age-adjusted homogamy hypothesis, in at least some of Kenrick and Keefe's (1992) samples, men in their 20s indicated that they find moderately older women, as well as moderately younger women, desirable as mates. And we should expect the age-adjusted homogamy effect to be operating most strongly among teenagers—after all, males of this age should be maximally immature relative to similarly aged females. Yet it does not seem to be operating here at all. In fact, teenage males are attracted to females who are much

more mature than they are. Given that the age-adjusted homogamy hypothesis has little to offer in explaining variability at any life-stage, it is difficult to consider it an important alternative to current theories in evolutionary psychology. It is at best a minor addition.

But even if men of all ages equally desire women in their late teens to mid-20s, this does not mean those women will have them. Buller ignores the important role played by female choice. There are reasons to expect young women not to prefer elderly men as mates. As Leonard (1989) noted, elderly men are more likely than young men to die before the children reach maturity. When the men have sufficient resources to make up for the risk, though, many women are willing to make it. Hence, men like Donald Trump or Henry VIII have tended to have access to much younger mates, and polygynous emperors have tended to keep choosing young women (Betzig, 1992). However, most aging men do not have sufficient resources to attract the mates that Henry VIII could. Yet the attraction towards youthful cues does not disappear, and such men often end up with a woman who is perhaps 40. Although such a woman is likely to be less fertile (and perhaps infertile), marrying her does not represent a loss in reproductive potential for a less wealthy male, since he did not have any offers from younger women. Given that she is still relatively healthy, though, she may assist directly or indirectly in his grandparenting efforts, and he in hers. (Of course, none of this maneuvering is presumed to be conscious.)

There is another reason that evolutionary psychologists are not surprised that some males choose post-reproductive mates. As noted by some commentators on their paper, Kenrick and Keefe's (1992) samples may have led to an underestimation of the strength of men's preference for youth in ancestral environments. Most of their samples came from highly industrialized countries where women have regular access to nutritious food, quality healthcare, and cosmetics and do not engage in hard labor. All of these factors could cause a woman to outwardly age more slowly than she would have in a traditional society (see, especially, Symons, 1992b). Thus, men's preference mechanisms for youth (designed to operate in an environment that no longer exists for most humans) might find a woman near menopause still manifesting some of the cues that were traditionally linked to fertility. Indeed, samples from third-world countries revealed a stronger relative age-difference between older men and their wives (e.g., Harpending, 1992, with an African sample; Kenrick and Keefe, 1992, with a Philippine sample).

In sum, Buller has not provided a withering critique of an evolved male preference for young women. Instead, he proposed a theory that was in part already the consensus within the field of evolutionary psychology, although his theory is less precise than other current theories. The age-adjusted homogamy hypothesis, the only major new component he has added, is likely to turn out to be somewhat superfluous.

Women Do Prefer High-Status Men

“Evolutionary psychologists claim women have an evolved preference for high-status men” (Buller, 2005, p. 228). This is because, “in general, the higher a male is in status...the greater his ability to control resources across many situations” (Ellis, 1992, p. 268). The more resources a male has, the more he can invest in a woman's offspring. As noted by Buller, status is often operationalized through two lower-level constructs. The first is *interpersonal dominance*: “one's ability to prevail over another in competitive encounters” (Ellis, 1992, p. 274). The second is *a capacity to acquire resources*, usually manipulated in experiments through income

level or socioeconomic status (SES). Buller argues that “there is no convincing evidence of a robust female preference for high-status males” (p. 252).

Buller’s general claim is that the observed effects are entirely spurious and due simply to mating based on status similarity. He contrasts this with another alternative explanation for the findings produced by evolutionary psychologists, the *structural powerlessness hypothesis*. This hypothesis, while admitting that the effects are real, argues they are due only to modern inequalities between the sexes, not evolved sex-differentiated mating mechanisms. We will only mention a couple of arguments against the structural powerlessness hypothesis (for more, interested readers can consult, e.g., Ellis, 1992; Kenrick and Li, 2000; Townsend and Levy, 1990b). First, the structural powerlessness hypothesis makes the prediction that as women gain greater access to power and wealth, they will be less selective about the status of their mating partner. After all, if they already have status, they do not need to use their partner to gain it. This has been shown not to be the case; in fact, as women increase in SES, they prefer increasingly high status mates (Buss, 1989; Todosejević, Ljubinković, and Arančić, 2003; Townsend, 1987). Second, the evolutionary hypothesis relies on the biological principles of differential parental investment and sexual selection, which have been supported by thousands of observations in other animal species. According to the structural powerlessness hypothesis, humans are exempt from these same principles and selection pressures and yet—due to historical and cultural contingency—humans (presumably by coincidence) exhibit exactly the behavior and manifest psychology as would be predicted based on these selection pressures. Although this hypothesis is not logically impossible, it seems highly unlikely that such an unparsimonious explanation is needed to explain human behavior.

Instead, Buller prefers what he calls the *status homogamy hypothesis*. This hypothesis is designed to explain the data from a range of studies conducted by evolutionary psychologists. For instance, Townsend and Levy (1990a,b) showed in a series of studies that females found higher SES males more attractive than medium or low SES males and were more willing to enter various types of mating relationships with them. Although men’s preferences were affected by the SES of female targets, they were affected to a smaller degree. Similar results have been found by others using somewhat different methods (e.g., Kenrick et al., 1990; Kenrick, Groth, Trost, and Sadalla, 1993; Li and Kenrick, 2006; Regan, Levin, Sprecher, Christopher, and Cate, 2000). Based on these data, evolutionary psychologists argue that women, more than men, find SES (a proxy for resource-acquiring ability) to be an important attribute in choosing mates.

Buller believes this empirical claim is false. He argues that all of these samples come from middle to upper-middle class populations with high SES. Women are simply mating assortatively—selecting men who have a similar SES as themselves. What about the fact that women place a *greater* emphasis on SES and income than men? Buller attributes this to two related effects. First, men on average make more than women even when all other facets of social status are controlled. Thus, if people mate with similar others, women should select men who make more money than they do. Second, income is a much stronger predictor of other facets of men’s social status than it is for women. Specifically, if I tell you that a man makes \$35,000, you can be pretty accurate in guessing that he is low-to-medium SES. But if I tell you that a woman makes \$35,000, is she low-to-medium SES? Does she work part-time and have a high income husband? And so on. This explains why women place more weight on SES than men in making mating judgments—it provides women, but not men, useful information for assortative mating.

The hypothesis that all of the effects of SES are spurious and due to a similarity preference leads to testable predictions, some of which were already falsified prior to Buller's critique. First, Buller's theory predicts that middle-class women's mating preferences based on income would demonstrate an inverted U-shape. When men make little money and are low SES, they should be unattractive as mates. As men's income moves into the medium SES range, they should be maximally attractive as mates. As men's income increases even more and they move into the upper echelon of the SES spectrum, they should become increasingly unattractive as mates once again. After all, under this theory, women want mates who are just like themselves. A recent study did not find this pattern (Kenrick, Sundie, Nicastle, and Stone, 2001). Undergraduates at Arizona State University (predominately medium and upper-medium SES) rated men's attractiveness as marriage partners at various levels of income. Income levels ranged from \$0 to \$1 million. Contrary to the predictions from Buller's theory, women's preferences were approximated by an asymptotic function. Although men making little to no money were unattractive as marriage partners, men making around \$150,000 and above were all equally attractive. In other words, men making \$1 million were no less attractive than men making \$200,000. This is not what Buller's similarity theory predicts.

Data also falsify a second prediction from Buller's theory of SES homogamous mating. Assuming a roughly equal sex ratio, there should be a roughly equal number of males and females at each level of status. Because Buller's theory states that the sexes have identical preference mechanisms for SES homogamy, men and women thus have roughly the same sized pools of similar mates. For both sexes, it is these pools of same-status mates that are maximally desirable. As both sexes move up or down the social ladder to the same degree, the size of the pool of desirable mates should also change in the same direction. For instance, if a woman and a man both gain status, their pool of maximally desirable mates should shrink (there are fewer people at progressively higher levels of status). Similar causes should have similar effects for both sexes. Townsend (1989) tested this prediction. He asked medical students how they saw the size of their pool of marriage partners changing as they progressed in their careers. In line with the predictions from Buller's theory and standard theories in evolutionary psychology, 85% of women in Townsend's sample felt that "As my status increases, my pool of acceptable partners decreases" (p. 246). Contrary to Buller's hypothesis, but consistent with the hypothesis from theories in evolutionary psychology, 90% of men felt that "As my status increases, my pool of acceptable partners *increases*" (p. 246, emphasis added). If men and women have evolved only to seek similar mates on dimensions of status this should not have occurred: Men's pool of potential mates should change in the same way as women's. Instead, men in this sample appear to expect their increased status to give them access to a larger pool of attractive females (Townsend, 1989). Any alternative theory must explain the pattern of findings for both sexes, not one in isolation. We conclude that women do indeed value a male's resource-acquiring capacity and that, because SES homogamy does not provide a parsimonious explanation for the known facts, the original studies still stand (e.g., Townsend and Levy, 1990a,b; Kenrick et al., 1990, 1993).

What about interpersonal dominance? Buller's critical argument cannot begin to get off the ground here. His arguments regarding differences in income and predictability of status through income do not apply to interpersonal dominance. Buller admits "it may be that females actually do desire mates who are toward the top of the male status hierarchy" (Buller, 2005, p. 232). We agree. To summarize one set of studies in support, Sadalla, Kenrick, and Vershure (1987, Study 2) found that females find men described in a written paragraph as *dominating*

more attractive than men described as *dominated*. Based on video clips, women also rated more dominant men as more attractive (Sadalla et al., 1987, Study 1). As Sadalla and colleagues (1987) and others (e.g., Ellis, 1992) point out, there is reason to believe that a woman's preference for dominant men is tempered by a preference for the man not to be dominating *towards her personally* (Burger and Cosby, 1999; and Sadalla et al., 1987, present empirical evidence that this may be the case). Importantly, male subjects made no distinctions in female attractiveness based on differences in a woman's dominance. Women, but not men, prefer mates with greater interpersonal dominance. For more evidence, readers are encouraged to consult Ellis (1992).

Buller has two additional criticisms of evolutionary psychologists' theories of female mate choice. First, he points out that not all studies investigating the relationship between status and reproductive success find increased status to be linked with increased reproductive benefits. We are convinced by Symons' arguments (e.g., 1992a) that data on reproductive success, particularly data from modern environments, are often tangential to understanding the nature of evolved psychological mechanisms. Data on one sex's reproductive success reveals little about the operation of that sex's psychological mechanisms. More to the point, such data are ambiguous about the operation of mate choice mechanisms of the opposite sex, particularly when collected non-experimentally (as they must be in humans). If high status men have more sexual partners or more offspring, is that because women find them attractive due to their high status? Or are women finding them attractive because of a correlate of status (such as health)? Or are high status men keeping low status men from seeking mates and no female choice is involved at all? Although reproductive data can suggest interesting hypotheses, other types of data are more useful for testing between competing explanations. Thus, the finding that greater status isn't always associated with more offspring is relatively uninformative in debates on the nature of evolved mating mechanisms.

Second, Buller laments that "Evolutionary Psychologists" have such a narrow focus on female preferences for status that they ignore female preferences for male attractiveness. Luckily, he assures us, "evidence of this association is already beginning to accumulate" (p. 252), presumably due to the efforts of researchers he would label "non-Evolutionary Psychologists." This criticism is yet another error based on selective definitions of evolutionary psychology (see Holcomb, 2005). Evolutionary psychologists Steven Gangestad, Randy Thornhill, and Jeffrey Simpson (among many others) have amassed a great deal of evidence about female choice related to male attractiveness and fluctuating asymmetry (a marker of developmental instability that is inversely related to a man's attractiveness) and have developed theories of mating that give central place to male attractiveness based on good-genes selection (e.g., Gangestad and Simpson, 2000; Gangestad and Thornhill, 1997). (We are at a loss to explain why Buller, when mentioning them in his critique of mate preferences, does not label Gangestad and Thornhill as evolutionary psychologists, or even "Evolutionary Psychologists"—given that they would so label themselves, and that Gangestad is president-elect of the Human Behavior and Evolution Society). We again cite Buss from his textbook, this time as he describes the research program of Gangestad, Thornhill, and others: Many evolutionary psychologists "have discovered an important physical marker of good health: the degree to which the face and body are symmetrical...[F]acially symmetrical men, compared with their more lopsided counterparts, are judged to be more sexually attractive to women" (2004, p. 121). (Buller does cite a summary by Buss on symmetry and attractiveness in a different section of his book, but does not connect this to his critique of the evidence for mate preferences.) Clearly, a

consideration of physical attractiveness has played an important role in evolutionary psychologists' theories of both male *and* female mate choice.

Evolutionary Psychologists' Theories and Evidence Still Stand

Men prefer young, fertile women and women prefer high-status men. Buller's arguments to the contrary have been shown to be false, superfluous, or a slight variant on the consensus of evolutionary psychologists. Throughout this response we have relied mainly on data and theories that were published prior to Buller's book. Most of this work was available in papers he himself cites or was published by researchers whose work he is criticizing. Theories of shifting strategies have always been part of evolutionary psychologists' theories. Buller has created a straw man: He implies that evolutionary psychologists have hypothesized that each sex has a single-minded focus on only one characteristic of potential mates—youth or status—regardless of other factors. In reality, evolutionary psychologists have always included multiple preferences in their theories of mate choice (see Buss' textbook, 2004). He suggests that homogamy is a potent force in mating and that it explains many empirical phenomena for both sexes. This isn't new or an alternative: Over a decade ago, Kenrick and Keefe (1992) incorporated similarity preferences into their evolutionary model. Buller's one original hypothesis, the age-adjusted homogamy hypothesis, fails to convincingly account for any previously unexplained data. Women's preference for status isn't based simply on homogamy either: More and more status in a male never becomes less attractive for middle class women.

The theory that human mate choice can be mostly accounted for by homogamy does not get one very far. On what dimensions do humans mate homogamously? Without specifying limits, a species with only a homogamy mechanism would find siblings of the same sex and similar age to be the most erotic creatures around. This does not characterize humans. Already, evolutionary psychologists have been theorizing about and documenting the dimensions for which evolution by natural selection would have designed "homogamy mechanisms" (e.g., personality) and the dimensions for which homogamy does not operate in mate choice (e.g., youth, status). Evolutionary psychologists are already way ahead of Buller in the rigor and nuance of their theories. It's time for him, and other critics, to catch up and to stop re-attacking the same straw men.

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