

## REPLY

# The Many Voices of Darwin's Descendants: Reply to Schmitt (2014)

Paul W. Eastwick  
University of Texas at Austin

Laura B. Luchies  
Daemen College

Eli J. Finkel  
Northwestern University

Lucy L. Hunt  
University of Texas at Austin

This article elaborates on evolutionary perspectives relevant to the meta-analytic portion of our recent review (Eastwick, Luchies, Finkel, & Hunt, 2014). We suggested that if men and women evolved sex-differentiated ideals (i.e., mate preferences), then they should exhibit sex-differentiated desires (e.g., romantic attraction) and/or relational outcomes (e.g., relationship satisfaction) with respect to live opposite-sex targets. Our meta-analysis revealed no support for these sex-differentiated desires and relational outcomes in either established relationship or mate selection contexts. With respect to established relationships, Schmitt (2014) has objected to the idea that relationship quality (one of our primarily romantic evaluation dependent measures) has functional relevance. In doing so, he neglects myriad evolutionary perspectives on the adaptive importance of the pair-bond and the wealth of data suggesting that relationship quality predicts the dissolution of pair-bonds. With respect to mate selection, Schmitt (2014) has continued to suggest that sex-differentiated patterns should emerge in these contexts despite the fact that our meta-analysis included this literature and found no sex differences. Schmitt (2014) also generated several novel sex-differentiated predictions with respect to attractiveness and earning prospects, but neither the existing literature nor reanalyses of our meta-analytic data reveal any support for his “proper” function-related hypotheses. In short, there are diverse evolutionary perspectives relevant to mating, including our own synthesis; Schmitt's (2014) conceptual analysis is not the one-and-only evolutionary psychological view, and his alternative explanations for our meta-analytic data remain speculative.

*Keywords:* evolutionary psychology, mate preferences, sex differences, relationship quality, close relationships

*Supplemental materials:* <http://dx.doi.org/10.1037/a0036111.supp>

Schmitt (2014) has offered a critique of the portion of our recent review that addressed sex differences in the ideal partner preference for physical attractiveness and earning prospects (Eastwick, Luchies, Finkel, & Hunt, 2014). Our article concerned the predictive validity of ideal partner preferences, broadly speaking; do the qualities that people say they desire in a romantic partner have downstream implications for the initiation and maintenance of actual relationships? In an attempt to integrate the different lines of work relevant to this question, our article touched on several

theoretical frameworks—not only evolutionary perspectives but also interdependence theory, the ideal standards model, construal level theory, and affective forecasting. As such, perhaps our discussion of evolutionary psychology was too cursory, and we certainly did not review the diverse evolutionary perspectives relevant to the study of close relationships—a multitude of voices that are not uniformly consistent with Schmitt's (2014) view on the proper functions of mate preference adaptations. Thus, we are grateful that Schmitt's (2014) thoughtful analysis has provided us an additional opportunity to contribute to the dialogue on these topics.

---

Paul W. Eastwick, Department of Human Development and Family Sciences, University of Texas at Austin; Laura B. Luchies, Department of Psychology, Daemen College; Eli J. Finkel, Department of Psychology, Northwestern University; Lucy L. Hunt, Department of Human Development and Family Sciences, University of Texas at Austin.

Correspondence concerning this article should be addressed to Paul W. Eastwick, Department of Human Development and Family Sciences, University of Texas at Austin, 108 East Dean Keeton Street, Stop A2702, Austin, TX 78712. E-mail: [eastwick@austin.utexas.edu](mailto:eastwick@austin.utexas.edu)

### The Adaptive Relevance of Romantic Relationship Quality

#### Pair-Bonding in Humans

Most models of human mating, including Schmitt's (2014) perspective, acknowledge the prevalence and importance of “long-

term” mating (i.e., pair-bonding) in humans. Although we did not elaborate on the ultimate functional rationale underlying the human reproductive pair-bond in our piece, extensive treatments exist elsewhere (Campbell & Ellis, 2005; Eastwick, 2009; Fraley, Brumbaugh, & Marks, 2005; Hazan & Diamond, 2000; L. C. Miller & Fishkin, 1997; Stewart-Williams & Thomas, 2013). In brief, the pair-bond may be adaptive because human offspring are exceptionally dependent and require considerable investment in order to survive to reproductive age. The pair-bond should encourage investment on the part of fathers, specifically in the form of provisioning, training and skill-building, and protection (Gettler, 2010; Gray & Anderson, 2010; Hewlett, 2000; Marlowe, 2003; Wood & Marlowe, 2013). Findings from hunter-gatherer groups are largely consistent with the suggestion that father presence positively impacts reproductive outcomes. For example, father absence due to death or divorce negatively (and often strongly) predicts offspring survival, prior to and including the offspring’s teenage years (Geary, 2000; Hurtado & Hill, 1992). Furthermore, father contributions positively predict wives’ future fertility (Marlowe, 2001; Winking, 2006); that is, men’s investments shorten the interbirth interval and enhance the likelihood that they will produce more future offspring.

A sizable literature on the psychology of the pair-bond comes from the field of close relationships (Bradbury & Karney, 2010; G. J. O. Fletcher, Simpson, Campbell, & Overall, 2013; R. S. Miller, 2012). Scholars in this tradition study how people actually experience long-term mating, and they frequently do so with very strong methods that capture the complexities of real (not imaginary or hypothetical) interacting romantic dyads (Eastwick, 2013). Typically, close relationships researchers assess affect-laden measures of relationship quality such as satisfaction, commitment, intimacy, trust, love, and passion (G. J. O. Fletcher, Simpson, & Thomas, 2000) as indicators of whether the pair-bond is flourishing or faltering. Although all of these constructs have their own theoretical foundation, in practice they tend to correlate highly ( $r$ s in the .60–.70 range), suggesting the existence of a global relationship quality construct (G. J. O. Fletcher et al., 2000).

Schmitt (2014, p. 668) suggests that these relationship quality components are “‘beneficial effects’ in an informal intuitive sense,” not functional outcomes with a strong evolutionary rationale. We disagree. For example, the Tancredy and Fraley (2006) emotional bonding measure that we often encountered in our review is theoretically supported by the work of Bowlby (1969)—arguably the original evolutionary psychologist—and his ethologically inspired concepts of proximity seeking, separation distress, safe haven, and secure base. Also, couples’ satisfaction is associated with adaptively relevant outcomes such as their own health (Robles, Slatcher, Trombello, & McGinn, 2014) and their children’s better adjustment and social competence (Emery, 1982). Most important of all, the psychological experience of relationship quality is vital for the maintenance of the pair-bond; meta-analyses indicate that dating (Le, Dove, Agnew, Korn, & Mutso, 2010) and married (Karney & Bradbury, 1995) relationships are less likely to break up to the extent that couples report higher levels of various relationship quality components, and these effect sizes are frequently substantial ( $r$ s between .30 and .50).

In short, there is a strong ultimate functional rationale, rooted in survival and reproduction, for examining relationship quality as a dependent variable: Pair-bonds promoted reproductive success in

humans’ ancestral past, and relationship quality is the central indicator of whether the pair-bond will persist long enough to have functional benefits. Like most constructs of interest to evolutionary psychologists, satisfaction and other indicators of relationship quality have not been studied extensively in hunter-gatherer populations. We lament this gap in the literature, as such data would allow close-relationships researchers to inform ongoing debates about the role of fathers in parenting and mating contexts (Gray & Anderson, 2010; Hawkes, O’Connell, & Blurton-Jones, 2001; Sear & Mace, 2008; Wood & Marlowe, 2013). Nevertheless, given the current state of the psychological and anthropological evidence, the justification for the use of relationship quality as an adaptively relevant variable is sound.

We wish that we could take credit for this idea that relationship quality constructs have adaptive, functional relevance. Alas, we cannot; many have preceded us with this claim, even in some of the works cited by Schmitt (2014). For example, Shackelford and Buss (2000, p. 918) noted that “Marital dissatisfaction might function to motivate the individual to attempt to change the existing relationship, or to seek another one that may be more beneficial.” Kenrick, Griskevicius, Neuberg, and Schaller (2010, p. 303) suggested that others’ expressions of love, intimacy, and commitment are “triggers likely to be functionally connected” to the mate retention motivational system. With respect to earning prospects and attractiveness specifically, in a chapter titled “Marital Satisfaction in Evolutionary Psychological Perspective,” Shackelford and Buss (1997) argued that resource provisioning toward the spouse (i.e., spending money on the spouse) should be positively associated with marital satisfaction for wives but not for husbands. In a remarkable contrast to Schmitt’s (2014) analysis, Meltzer, McNulty, Jackson, and Karney (in press) drew from evolutionary perspectives to argue that marital satisfaction is the ideal dependent measure when examining sex differences in the importance of physical attractiveness. Our (inclusive) perspective argues for the adaptive importance of all attraction- and relationship-relevant dependent variables—as long as participants are reporting on a target they have met face-to-face—because these evaluations all predict whether people will pursue and/or maintain an actual relationship (Eastwick, Neff, Finkel, Luchies & Hunt, in press).

### Functionally Specific Perspectives on Relationship Maintenance

Our meta-analysis did not reveal sex differences in the associations of a partner’s attractiveness or earning prospects with relationship quality outcomes. Nevertheless, given (a) the adaptive relevance of relationship quality measures and (b) that the sexes differ on average in their stated mate preferences for physical attractiveness and earning prospects, we maintain that it was sound to hypothesize a priori that sex differentiated associations should have emerged on average.<sup>1</sup> Our perspective does not rule out the possibility that more complex moderational patterns exist, as we

<sup>1</sup> Schmitt (2014) is misleading when he uses words like “invariantly” or “always” instead of “on average” to describe our perspective. Also, Schmitt’s (highly plausible) suggestion that the determinants of physical attractiveness are themselves sex-differentiated (e.g., masculinity predicts attractiveness positively for men only) has no relevance to the hypothesis we tested: that the importance of attractiveness itself differs on average for men and women.

discussed in our article (Eastwick, Luchies, et al., 2014); our own data simply have not revealed evidence for individual difference moderators of these sex differences (e.g., mate value, long-term vs. short-term orientation; Eastwick & Finkel, 2008a).

Schmitt (2014) describes many possible ways that sex-differentiated patterns might lurk beneath our meta-analytic null sex differences, patterns that could reflect the functional benefits of partner physical attractiveness (for men) or partner earning prospects (for women). We concur with Schmitt's (2014) perspective insofar as the association between attractiveness/earning prospects and partner evaluations might exhibit functionally specific patterns that would be obscured by a meta-analytic approach. However, all of his suggestions are appropriately characterized as future testable hypotheses, not alternative explanations.

Consider an example: On a pair of occasions, Schmitt (2014) describes a possible pattern of data involving men's trust as a dependent variable. Specifically, he suggests that a man mated to an attractive woman might be forced to "mate guard her and constantly fend off mate poachers, perhaps leaving him anxious and untrusting toward his wife" (p. 668), and that these behaviors and emotions would have adaptive, functional consequences for his reproductive outcomes. If this negative association between partner attractiveness and trust only existed for men, then our inclusion of trust in the meta-analysis would decrease the size of the difference between the male and female correlations, and Schmitt (2014) would indeed have identified an alternative explanation for our data that supports his sex-differentiated predictions. But do extant data on real world couples support Schmitt's (2014) depiction? Two elements would need to be true: (a) The association between partner attractiveness and trust should be more negative (or less positive) for men than for women; and (b) mate guarding and fending off poachers should predict relationship stability (i.e., these behaviors should be adaptive), despite the absence of trust.

First, we know of no evidence for (a). Only 12 samples (out of 97) in the physical attractiveness portion of the meta-analysis included trust as a dependent variable, and trust was always averaged in with other dependent measures in these studies. If we eliminate these 12 studies and conduct the meta-analysis on the remaining 87 studies, the overall associations become  $r = .44$  for men and  $r = .41$  for women (sex difference  $p = .512$ )—not compelling evidence that the inclusion of trust masked a systematic sex difference.<sup>2</sup> Furthermore, the data sets for two of these studies are in our possession (DeWall et al., 2011; Finkel, Campbell, Buffardi, Kumashiro, & Rusbult, 2009), and thus we can calculate the association between attractiveness and trust alone in these data sets. The meta-analytic associations of the participant-reports of attractiveness with trust were  $r = .34$  for men and  $r = .32$  for women (sex difference  $p = .856$ ), and the associations of the partner-reports of attractiveness with trust were  $r = -.08$  for men and  $r = -.12$  for women (sex difference  $p = .658$ ). Thus, Schmitt (2014) is perhaps correct to intuit that physical attractiveness associations with trust might be negative under some circumstances (see also Eastwick, Morgan, et al., 2014), but there is no evidence for his hypothesized sex difference.

Second, we consider the evidence for (b): On average, are relationships likely to last when, in the absence of trust, people experience jealousy, engage in mate guarding, and drive away potential poachers? Bear in mind that trust strongly and negatively

predicts breakup (effect size  $d = -0.57$ ; Le et al., 2010), so if the stability of the pair bond is a key functional outcome in long-term mating relationships, behaviors like mate guarding would need to have similarly strong effects on breakup in Schmitt's (2014) scenario to counteract the absence of trust. However, direct evidence for the effect of mate guarding on breakup is also lacking, and the indirect evidence that exists suggests that these emotions and behaviors could actually decrease, not increase, relationship stability. For example, jealousy is a harbinger of divorce (Amato & Rogers, 1997), and even though jealousy can have positive or negative effects depending on how it is communicated, it is "in most respects a detriment to close relationships" (Guerrero & Andersen, 1998, p. 177–178). Some putative mate retention behaviors (Shackelford, Goetz, & Buss, 2005) are driven by suspicion (e.g., vigilant monitoring of one's partner), but the suspicious motives underlying these behaviors make people more, not less, likely to break up (Ickes, Dugosh, Simpson, & Wilson, 2003). Other mate retention behaviors (e.g., mate guarding, fending off poachers; Shackelford et al., 2005) could function to preserve relationships, but we know of no data linking such behaviors with actual mate retention in relationships. In fact, many of these tactics could be interpreted as attempts to change a partner's behavior, and typically, such attempts produce resistance on the part of the partner and fail to produce change (Hira & Overall, 2010). Thus, although Schmitt's (2014) hypothetical man might be able to preserve his untrusting, jealousy-laden relationship through vigilance and other forms of strategic interference under certain conditions, it is unlikely to be true on average.

In summary, the various functionally specific mate retention hypotheses generated by Schmitt (2014) must be demonstrated empirically (not to mention meta-analytically; Cumming, in press) in actual romantic relationships to constitute an alternative explanation for our effects. In fact, as far as we know, there is strong evidence that only one of the 19 Shackelford et al. (2005) mate retention tactics actually predicts mate retention (i.e., relationship stability): love and care (Le et al., 2010). Thus, if researchers wish to test functional predictions about psychological constructs linked to the maintenance of long-term pair-bonds, we would argue that love, trust, and other assessments of relationship quality are currently the best choices, as they are the only measures that are empirically linked (negatively) to breakup and divorce.

### Which Studies Are Relevant to Tests of Sex Differences?

#### Mate Selection and the Short-Term Versus Long-Term Distinction

Schmitt (2014) does predict the emergence of sex differences in the importance of physical attractiveness and earning prospects in some contexts. Specifically, he notes that mate preferences should be designed to "influence people's attraction to, striving for, and

<sup>2</sup> Schmitt's (2014) concerns about the items *sensual* and *successful* are also of little consequence with respect to sex differences. Dropping the one study using *sensual* changed the physical attractiveness correlations to  $r = .42$  for men and  $r = .40$  for women (sex difference  $p = .497$ ), and dropping the 14 studies using *successful* changed the earning prospects correlations to  $r = .06$  for men and  $r = .08$  for women (sex difference  $p = .323$ ).

actually selecting certain mates” (p. 667). Studies of established relationships almost never test these processes, as such studies typically involve the recruitment of couples who have already formed a relationship with each other.

In anticipation of this mate selection hypothesis, our meta-analysis also included studies that examined attraction and mate selection. To be clear, the meta-analysis, by design, did not include studies where participants evaluated targets they never met face-to-face (e.g., descriptions, photographs, dating profiles). As we acknowledged, sex differences in the association of physical attractiveness and earning prospects with dependent measures such as attraction and choice emerge in these contexts. Yet the ultimate functional relevance of these awareness contexts (Levinger & Snoek, 1972) is unclear given the lack of photographic and written information about potential partners in ancestral environments; that is, humans evolved in a context where mate selection would have involved face-to-face interactions at a minimum. Consequently, the meta-analysis included all available data from attraction paradigms such as zero acquaintance, confederate, naïve participant interaction, speed-dating, opposite-sex peer, and single-date designs—all cases where participants are reporting on opposite-sex others who are not relationship partners but whom they have met face-to-face. Of the 97 physical attractiveness studies in the meta-analysis, 48 fit into one of these categories ( $N = 10,004$ ); of the 56 earning prospects studies, 15 fit into one of these categories ( $N = 9,801$ ). As we reported in the meta-analysis, these studies failed to reveal sex differences in the association of physical attractiveness or earning prospects with attraction, desire, pursuit, and choice measures.

Schmitt (2014) addresses this portion of the meta-analysis only briefly. Specifically, he states that it is “not unexpected” (p. 669) that sex differences in physical attractiveness fail to emerge in contexts like speed-dating, because women also prioritize attractiveness in short-term romantic partners. Presumably, Schmitt views speed-dating and perhaps the other attraction paradigms as short-term, not long-term, mating contexts. We have both an empirical and a theoretical objection to this interpretation of the meta-analytic data.

The empirical objection draws from extant data on the stated preference for attractiveness in short-term contexts. A close reading of the published data on this topic does not permit the conclusion that the sex difference in the stated partner preference for attractiveness disappears when people are considering a short-term partner. That is, just as men claim they desire attractiveness in an ideal partner more than women do, men also claim that they desire attractiveness in a short-term partner more than women do. Schmitt (2014, p. 669) cites two articles to make the claim that women “emphasize physical attractiveness in their short-term mates (often more than men do; Buss & Schmitt, 1993; Kenrick et al., 1990).” We do not share Schmitt’s (2014) interpretation of the data in these two articles. In Buss and Schmitt (1993), men reported on a  $-3$  to  $3$  scale that they desired *good looking* and *physically attractive* ( $M = 2.69$ , averaged across the two items) in a short-term partner, whereas women reported a lower value ( $M = 2.42$ ). Furthermore, this sex difference (.27 scale points) was virtually identical to the size of the difference reported in long-term contexts (.25) in this study. In the other study cited by Schmitt (Kenrick, Sadalla, Groth, & Trost, 1990), Figure 4 indicates that men gave higher ratings to attractiveness than women in

all contexts, including sexual relations. Figure 1 of Li and Kenrick (2006) reveals a similar sex differentiated pattern of data. Two other studies did not report means for short-term partners separately by sex but did report that (a) men reported higher ratings than women for attractiveness across short-term and long-term contexts (combined), and (b) the short-term versus long-term context did not moderate the size of this sex difference (Buunk, Dijkstra, Fetchenhauer, & Kenrick, 2002; Regan, Levin, Sprecher, Christopher, & Cate, 2000). In our own work, men gave higher ratings to attractiveness than women did when they specifically forecasted what they would prefer at a speed-dating event (Eastwick & Finkel, 2008a). We know of only one article (not cited by Schmitt) reporting a trend for women’s attractiveness ratings to be higher than men’s in short-term contexts (Kenrick, Groth, Trost, & Sadalla, 1993), and in this case, the trend emerged on only one of the two short-term items. Given the existing published evidence, there is minimal justification for the claim that women’s stated preference for physical attractiveness is as high as men’s in short-term contexts. With one exception, these means are consistently in the male direction, and so it follows that stated preferences in short-term contexts cannot explain the lack of sex differences in the attraction meta-analytic studies.

Our theoretical response concerns the suggestion that zero-acquaintance, confederate, naïve participant interaction, speed-dating, opposite-sex peer, and single-date designs are short-term mating contexts rather than simply attraction and/or mate selection contexts. We agree that processes associated with short-term mating (e.g., a focus on sex, the importance of attractiveness) are probably more likely to be salient in these situations than in studies of established couples. We also agree that long-term mating processes (e.g., intimate disclosures, attachment features and functions) are probably more salient in studies of established couples than in initial attraction studies (for an extended discussion, see Eastwick & Finkel, 2008b). Yet a possible difference between our perspective and Schmitt’s (2014) could be that we draw from an alternative (but still evolutionary) close-relationships tradition, which posits that long-term relationships originate in impression formation settings that are mimicked by these short-term designs (Bradbury & Karney, 2010; R. S. Miller, 2012). Specifically, romantic relationships emerge as a process of development over time: The length of time that a particular romantic relationship lasts (whether hours or years) depends on how well two individuals coordinate increases in interdependence and whether they experience sufficient desire for each other that they wish to commit to and invest in the relationship (Eastwick, 2013; Eastwick, Morgan, et al., 2014). Thus, the formation of a long-term relationship is a low-probability phenomenon that begins with an initial impression in some context like those investigated in our meta-analysis; those dyads who experience sufficient romantic interest in and desire for each other are more likely to progress to subsequent stages of relationship development. In this framework, short-term relationships are those in which people experience some amount of sexual attraction for each other—enough that they wish to engage in sexual acts—but they do not desire increases in intimacy and the formation of an interdependent relationship.

The implication of these observations for the current debate is as follows: If there is a separate context in which people attract and initiate relationships specifically with long-term partners through a selection process that circumvents short-term adaptations and

mechanisms (cf. Schmitt & Buss, 1996), this process has never been captured empirically with actual dyads who have met face-to-face. We can imagine what such a context would look like (e.g., meeting a nice man at church), but the suggestion that such contexts emphasize long-term over short-term considerations is entirely speculative. In fact, one very large recent study provided no support for the idea that some meeting contexts (e.g., churches vs. bars) breed more successful long-term relationships than others (Cacioppo, Cacioppo, Gonzaga, Ogburn, & VanderWeele, 2013). Until scholars discover and validate the existence of long-term-specific mate selection settings, we submit that the attraction portion of our meta-analysis captured the attraction, striving, and choice processes involved in mate selection; these are the settings for which Schmitt (2014) predicts the emergence of sex differences, and our data did not reveal them.

### Were Supportive Findings Excluded From the Meta-Analysis?

The conclusions of our meta-analysis also might merit some skepticism if we had failed to include large relevant literatures above and beyond the close relationships and attraction studies described above. Indeed, Schmitt's (2014) section "What to Expect When You Are an Evolutionary Psychologist" is a veritable tour de force of citations offering support for evolutionary psychological predictions about long-term mate preferences. But do these studies weigh against the findings of our meta-analysis? They do not. In the two paragraphs following "Supportive findings include . . ." (p. 667), Schmitt (2014) lists an impressive 35 citations. Nevertheless, a closer examination of these citations reveals that one has nothing to do with mating, nine are not about the desirability of attractiveness or earning prospects (i.e., the literatures we meta-analyzed), seven cannot test sex differences because the researchers did not examine the same variables in both sexes, four examined stated preferences, and five examined hypothetical/online dating contexts. (See the supplemental materials for details.) Of the remaining nine citations, five were actually included in the meta-analysis, and one could have been included in the meta-analysis but was unavailable at the time (Li et al., 2013, which we discuss below).

The remaining three studies merit some additional discussion. Pérusse (1994) found that men's (but not women's) own income was positively associated with total number of sexual partners; Fieder and Huber (2007) found that men's (but not women's) own income was positively associated with having at least one child; and Nettle and Pollet (2008) found that men's income was positively associated (but women's income was negatively associated) with total number of children.<sup>3</sup> However, as we noted in our review (Eastwick, Luchies, et al., 2014) with respect to the Pérusse (1994) study, these dependent measures are ambiguous with respect to psychological mechanism. For example, the Nettle and Pollet (2008) findings could indicate that women with high incomes are unappealing to men (and hence childless), or alternatively, that women with high incomes face work-life tradeoffs that cause them to choose not to have children. The former is a partner effect, whereas the latter is an actor effect (Orth, 2013). Our meta-analysis was devoted to partner effects, given that the functional hypotheses about the importance of partner physical attractiveness and earning prospects are partner effects—that is, the

hypothesized mental mechanisms reside in the minds of men and women who are evaluating the appeal of partners who possess some amount of the trait. Alternative interpretations due to actor effects are easy to generate unless the dependent variable is a participant's mating-relevant report about a specific target (e.g., romantic desire).

In fact, we were somewhat surprised to see Schmitt (2014) citing reproductive success dependent variables at all. Such reproductive fitness measures have a contentious past, especially when collected in modern industrialized populations with access to birth control (e.g., Fieder & Huber, 2007; Nettle & Pollet, 2008). Indeed, many evolutionary psychologists have historically argued against the use of these measures, choosing instead to study the adaptive "special design" features of psychological mechanisms (Andrews, Gangestad, & Matthews, 2002; Smith, Borgerhoff Mulder, & Hill, 2001). So although Schmitt (2014) claims that reproductive success outcomes are examples of "what to expect when you are an evolutionary psychologist," on this point he actually differs from the recommendations of many prior evolutionary psychologists. Just as close-relationships researchers offer an evolutionary perspective that differs from Schmitt's (2014), evolutionary psychologists do not always agree with one another. There are many voices who speak on behalf of Darwin.

### The Specter of Insufficient Variability

Schmitt (2014) also raises the possibility that existing studies systematically fail to include potential or actual partners who fall below some normative threshold of desirability. If true, this limitation raises questions about whether our meta-analysis was optimally designed to test sex differences, as some evolutionary perspectives predict that sex differences in the appeal of attractiveness and earning prospects are especially likely to emerge at the lower portions of the trait spectrum (Li et al., 2013). With respect to earning prospects, we agree that this concern might be relevant to some collegiate populations; although unemployment and underemployment is a serious problem among U.S. college graduates, these rates are surely quite low among recent graduates of highly prestigious institutions. But we do not find it plausible that all partners exceed an earning prospects threshold in studies using community samples, especially given that many of these studies entail special efforts to recruit participants across a broad range of socioeconomic means. As it happens, the earning prospects portion of our meta-analysis consisted largely of studies conducted outside of university settings, and earning prospects sex differences did not emerge if we examine these studies alone. For the attraction studies conducted in community samples ( $N = 7,854$ ), the average correlations for earning prospects were  $r = .02$  for men and  $r = .05$  for women (sex difference  $p = .429$ ); for established relationships studies ( $N = 38,095$ ), the average correlations were  $r = .05$  for men and  $r = .09$  for women (sex difference  $p = .216$ ).

With respect to physical attractiveness, we know of no data indicating that psychological studies conducted with either collegiate or community samples systematically exclude unattractive

<sup>3</sup> A few paragraphs later, Schmitt (2014) also cites Jokela (2009) as demonstrating that attractive women have more children than unattractive women, but he neglects to mention that Jokela also found this association for men—and if anything, the effect for men was slightly stronger.

people, and, truth be told, we find this suggestion extremely implausible. Schmitt (2014) cites a recent article that elaborates on the possibility that unattractive individuals might avoid participating in speed-dating studies (Li et al., 2013). Li et al.'s (2013) evidence for this suggestion is indirect: They conducted a study in which participants interacted with and reported their romantic desire for a "low physical attractiveness" (whose photographs were rated  $M = 2.4$  by third-party raters on a 1–7 scale) and a "moderate physical attractiveness" ( $M = 4.4$ ) opposite-sex target. These researchers found the expected sex difference such that this attractiveness manipulation affected men's more than women's romantic desire ratings of the target; consequently, Li et al. suggested that prior studies had failed to find sex differences because they did not include sufficient low-end variability on physical attractiveness.

Although these findings are certainly interesting, this explanation for the difference between the Li et al. (2013) findings and the findings of our meta-analysis is not tenable. In our own speed-dating studies (which failed to reveal sex differences), third-party physical attractiveness ratings of photographs of the male participants ranged from 1.5 to 4.8 ( $M = 2.7$ ,  $SD = 0.6$ ) on a 1–7 scale, and photographs of female participants ranged from 1.7 to 4.8 ( $M = 3.1$ ,  $SD = 0.6$ ). Thus, it seems that many of our speed-daters were less attractive than Li et al.'s (2013) low attractiveness targets; in fact, their two low attractiveness male targets ( $M = 2.4$ ) would have scored at approximately our 35th percentile—not half bad!<sup>4</sup> Thus, unattractive individuals attend speed-dating events, and we are not aware of data suggesting that other designs (e.g., confederate, opposite-sex peer, naïve participant) are systematically excluding any portion of the attractiveness spectrum. We are certainly receptive to the possibility that the association of attractiveness or earning prospects with romantic evaluations could exhibit theoretically meaningful nonlinearities, and we look forward to future studies in live attraction contexts or established relationships that test such possibilities. Yet our meta-analysis suggests that, when collapsed across the entire range of attractiveness and earning prospects that exists in the collegiate and community populations that scholars have studied to date, there is not compelling evidence for a difference in the male and female associations.

## Conclusion

Schmitt's (2014) engaged and thoughtful commentary offered us an opportunity to clarify elements of our recent analysis of the predictive validity of ideal partner preferences (Eastwick, Luchies, et al., 2014); we hope that readers find this discourse to be as productive as we have. Schmitt channels one evolutionary perspective when he suggests that sex-differentiated mate preferences for physical attractiveness and earning prospects are functional in influencing attraction and mate selection outcomes. But other interpretations of evolutionary perspectives arrive at the prediction that sex-differentiated patterns should emerge in established relationships (Shackelford & Buss, 1997), perhaps primarily so (Meltzer et al., in press). Our meta-analysis tested all of these possibilities, and the full corpus of available evidence consistently failed to provide any consistent, replicable evidence of the functional importance of sex differences in stated preferences in either mate selection or relationship contexts. In light of these data, we re-

spectfully suggest that portions of evolutionary psychological perspectives that have historically relied on self-reports of preferences and hypothetical scenarios deserve more rigorous scrutiny and perhaps revision.

Yet even though we have come to doubt the adaptive relevance of sex differences in stated preferences for traits, we are among the many who continue to be inspired by evolutionary perspectives; this is a tremendous credit to all those who have argued for the importance of evolutionary applications to psychological topics. For example, embedded in our home discipline of close relationships is the evolutionary concept that the motivated biases that sustain committed relationships reflect the adaptive benefits of the pair-bond for partners and offspring (Eastwick, 2013; G. J. O. Fletcher et al., 2013). Indeed, the many disagreeing voices apparent throughout our review article (Eastwick, Luchies, et al., 2014), Schmitt's (2014) commentary, and the current reply are indicators of a field that is growing and thriving. A discipline that speaks with too singular a voice is vulnerable; weak methods or the reluctance to acknowledge and address alternative explanations may produce a literature with entrenched liabilities (Freese, 2008). As long as researchers earnestly attempt to explain the full corpus of data across multiple laboratories, scholars of evolutionary psychology, anthropology, social psychology, and close relationships—the many voices elaborating upon Darwin's ideas—bring us closer to the correct characterization of the human experience. We embrace the cacophony, and we hope that all scholars interested in evolutionary applications to psychological topics will do the same.

<sup>4</sup> Li et al.'s (2013) two "low attractiveness" female targets would have scored at approximately the 17th percentile among our participants, and all four of Li et al.'s "moderately attractive" male and female targets would have been above our 95th percentile. Thus, if the distribution of attractiveness in the population from which Li et al.'s targets were drawn is anything like ours, the expected sex difference could have emerged because the attractiveness manipulation was stronger for the female targets (95th vs. 17th percentile) than for the male targets (95th vs. 35th percentile). This example illustrates why selecting a small number of stimuli for participants to evaluate is a perilous procedure if the stimulus (i.e., the opposite-sex target) is confounded with condition (i.e., attractiveness; Wells & Windschitl, 1999): Estimates in such designs are extremely unstable because the effective  $N$  is not the number of participants but rather the number of targets being evaluated (in Li et al.'s case,  $N = 8$ ).

## References

References marked with a dagger (†) are cited in the supplemental materials.

- Amato, P. R., & Rogers, S. J. (1997). A longitudinal study of marital problems and subsequent divorce. *Journal of Marriage and the Family*, 59, 612–624. doi:10.2307/353949
- Andrews, P. W., Gangestad, S. W., & Matthews, D. (2002). Adaptationism: How to carry out an exaptationist program. *Behavioral and Brain Sciences*, 25, 489–504. doi:10.1017/S0140525X02000092
- †Apicella, C. L., Feinberg, D. R., & Marlowe, F. W. (2007). Voice pitch predicts reproductive success in male hunter-gatherers. *Biology Letters*, 3, 682–684. doi:10.1098/rsbl.2007.0410
- †Asendorpf, J. B., Penke, L., & Back, M. D. (2011). From dating to mating and relating: Predictors of initial and long-term outcomes of speed-dating in a community sample. *European Journal of Personality*, 25, 16–30. doi:10.1002/per.768

- †Bereczkei, T., & Csanaky, A. (1996). Mate choice, marital success, and reproduction in a modern society. *Ethology & Sociobiology*, *17*, 17–35. doi:10.1016/0162-3095(95)00104-2
- †Betzig, L. (1986). *Despotism and differential reproduction: A Darwinian view of history*. New York, NY: Aldine.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.
- Bradbury, T. N., & Karney, B. R. (2010). *Intimate relationships*. New York, NY: Norton.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, *100*, 204–232. doi:10.1037/0033-295X.100.2.204
- †Buss, D. M., Shackelford, T. K., Kirkpatrick, L. A., & Larsen, R. J. (2001). A half century of mate preferences: The cultural evolution of values. *Journal of Marriage & Family*, *63*, 491–503. doi:10.1111/j.1741-3737.2001.00491.x
- Buunk, B. P., Dijkstra, P., Fetschenhauer, D., & Kenrick, D. T. (2002). Age and gender differences in mate selection criteria for various involvement levels. *Personal Relationships*, *9*, 271–278. doi:10.1111/1475-6811.00018
- Cacioppo, J. T., Cacioppo, S., Gonzaga, G. C., Ogburn, E. L., & VanderWeele, T. J. (2013). Marital satisfaction and break-ups differ across on-line and off-line meeting venues. *Proceedings of the National Academy of Sciences, USA*, *110*, 10135–10140. doi:10.1073/pnas.1222447110
- Campbell, L., & Ellis, B. J. (2005). Commitment, love, and mate retention. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 419–442). Hoboken, NJ: Wiley.
- †Cronk, L., & Dunham, D. (2007). Amounts spent on engagement rings reflect aspects of male and female mate quality. *Human Nature*, *18*, 329–333. doi:10.1007/s12110-007-9018-9
- Cumming, G. (in press). The new statistics: Why and how. *Psychological Science*.
- DeWall, C. N., Lambert, N. M., Slotter, E. B., Pond Jr., R. S., Deckman, T., . . . Fincham, F. D. (2011). So far away from one's partner, yet so close to romantic alternatives: Avoidant attachment, interest in alternatives, and infidelity. *Journal of Personality and Social Psychology*, *101*, 1302–1316. doi:10.1037/a0025497
- Eastwick, P. W. (2009). Beyond the Pleistocene: Using phylogeny and constraint to inform the evolutionary psychology of human mating. *Psychological Bulletin*, *135*, 794–821. doi:10.1037/a0016845
- Eastwick, P. W. (2013). The psychology of the pair-bond: Past and future contributions of close relationships research to evolutionary psychology. *Psychological Inquiry*, *24*, 183–191. doi:10.1080/1047840X.2013.816927
- Eastwick, P. W., & Finkel, E. J. (2008a). Sex differences in mate preferences revisited: Do people know what they initially desire in a romantic partner? *Journal of Personality and Social Psychology*, *94*, 245–264. doi:10.1037/0022-3514.94.2.245
- Eastwick, P. W., & Finkel, E. J. (2008b). The attachment system in fledgling relationships: An activating role for attachment anxiety. *Journal of Personality and Social Psychology*, *95*, 628–647. doi:10.1037/0022-3514.95.3.628
- Eastwick, P. W., Luchies, L. B., Finkel, E. J., & Hunt, L. L. (2014). The predictive validity of ideal partner preferences: A review and meta-analysis. *Psychological Bulletin*, *140*, 623–665. doi:10.1037/a0032432
- Eastwick, P. W., Morgan, T. A., Graham, L. T., Slotter, E. B., Luchies, L. B., & Neff, L. A. (2014). *Integrating strategy and stage perspectives on mating: Male physical attractiveness as a test case*. Unpublished manuscript, University of Texas at Austin, Austin, TX.
- Eastwick, P. W., Neff, L. A., Finkel, E. J., Luchies, L. B., & Hunt, L. L. (in press). Is a meta-analysis a foundation or just another brick? Comment on Meltzer, McNulty, Jackson, and Karney (2014). *Journal of Personality and Social Psychology*.
- Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. *Psychological Bulletin*, *92*, 310–330. doi:10.1037/0033-2909.92.2.310
- †Fieder, M., & Huber, S. (2007). The effects of sex and childlessness on the association between status and reproductive output in modern society. *Evolution and Human Behavior*, *28*, 392–398. doi:10.1016/j.evolhum-behav.2007.05.004
- Finkel, E. J., Campbell, W. K., Buffardi, L. E., Kumashiro, M., & Rusbult, C. E. (2009). The metamorphosis of Narcissus: Communal activation promotes relationship commitment among narcissists. *Personality and Social Psychology Bulletin*, *35*, 1271–1284. doi:10.1177/0146167209340904
- †Fisman, R., Iyengar, S. S., Kamenica, E., & Simonson, I. (2006). Gender differences in mate selection: Evidence from a speed dating experiment. *Quarterly Journal of Economics*, *121*, 673–697. doi:10.1162/qjec.2006.121.2.673
- †Fletcher, G. J. O., Simpson, J. A., Campbell, L., & Overall, N. C. (2013). *The science of intimate relationships*. Malden, MA: Wiley-Blackwell.
- Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin*, *26*, 340–354. doi:10.1177/0146167200265007
- †Fletcher, J. M. (2009). Beauty vs. brains: Early labor market outcomes of high school graduates. *Economics Letters*, *105*, 321–325. doi:10.1016/j.econlet.2009.09.006
- Fraley, R. C., Brumbaugh, C. C., & Marks, M. J. (2005). The evolution and function of adult attachment: A comparative and phylogenetic analysis. *Journal of Personality and Social Psychology*, *89*, 731–746. doi:10.1037/0022-3514.89.5.751
- Freese, J. (2008). Genetics and the social science explanation of individual outcomes. *American Journal of Sociology*, *114*, S1–S35. doi:10.1086/592208
- Geary, D. C. (2000). Evolution and proximate expression of human paternal investment. *Psychological Bulletin*, *126*, 55–77. doi:10.1037/0033-2909.126.1.55
- Gettler, L. T. (2010). Direct male care and hominin evolution: Why male–child interaction is more than a nice social idea. *American Anthropologist*, *112*, 7–21. doi:10.1111/j.1548-1433.2009.01193.x
- Gray, P. B., & Anderson, K. G. (2010). *Fatherhood: Evolution and human paternal behavior*. Cambridge, MA: Harvard University Press.
- †Guéguen, N., & Lamy, L. (2012). Men's social status and attractiveness: Women's receptivity to men's date requests. *Swiss Journal of Psychology/Schweizerische Zeitschrift für Psychologie/Revue Suisse de Psychologie*, *71*, 157–160.
- Guerrero, L. K., & Andersen, P. A. (1998). The experience and expression of romantic jealousy. In P. A. Andersen & L. K. Guerrero (Eds.), *The handbook of communication and emotion: Research, theory, applications, and contexts* (pp. 273–291). San Diego, CA: Academic Press. doi:10.1111/j.1475-6811.1998.tb00172.x
- †Gutierrez, S. E., Kenrick, D. T., & Partch, J. J. (1999). Beauty, dominance, and the mating game: Contrast effects in self-assessment reflect gender differences in mate selection. *Personality and Social Psychology Bulletin*, *25*, 1126–1134. doi:10.1177/01461672992512006
- †Ha, T., Overbeek, G. E., & Engels, R. C. M. E. (2010). Effects of attractiveness and social status on dating desire in heterosexual adolescents: An experimental study. *Archives of Sexual Behavior*, *39*, 1063–1071. doi:10.1007/s10508-009-9561-z
- Hawkes, K., O'Connell, J. F., & Blurton Jones, N. G. (2001). Hunting and nuclear families: Some lessons from the Hazda about men's work. *Current Anthropology*, *42*, 681–709. doi:10.1086/322559
- Hazan, C., & Diamond, L. M. (2000). The place of attachment in human mating. *Review of General Psychology*, *4*, 186–204. doi:10.1037/1089-2680.4.2.186

- Hewlett, B. S. (2000). Culture, history, and sex: Anthropological contributions to conceptualizing father involvement. *Marriage & Family Review, 29*, 59–73. doi:10.1300/J002v29n02\_05
- Hira, S. N., & Overall, N. C. (2011). Improving intimate relationships: Targeting the partner versus changing the self. *Journal of Social and Personal Relationships, 28*, 610–633. doi:10.1177/0265407510388586
- †Hitsch, G. J., Hortaçsu, A., & Ariely, D. (2010). Matching and sorting in online dating. *American Economic Review, 100*, 130–163. doi:10.1257/aer.100.1.130
- †Hughes, S. M., Farley, S. D., & Rhodes, B. C. (2010). Vocal and physiological changes in response to the physical attractiveness of conversational partners. *Journal of Nonverbal Behavior, 34*, 155–167. doi:10.1007/s10919-010-0087-9
- †Hurtado, A. M., & Hill, K. R. (1992). Paternal effect on offspring survivorship among Ache and Hiwi hunter-gatherers: Implications for modeling pair-bond stability. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial contexts* (pp. 31–55). New York, NY: Aldine de Gruyter.
- Ickes, W., Dugosh, J. W., Simpson, J. A., & Wilson, C. L. (2003). Suspicious minds: The motive to acquire relationship-threatening information. *Personal Relationships, 10*, 131–148. doi:10.1111/1475-6811.00042
- Jokela, M. (2009). Physical attractiveness and reproductive success in humans: Evidence from the late 20th century United States. *Evolution and Human Behavior, 30*, 342–350. doi:10.1016/j.evolhumbehav.2009.03.006
- †Jokela, M., Rotkirch, A., Rickard, I. J., Pettay, J., & Lummaa, V. (2010). Serial monogamy increases reproductive success in men but not in women. *Behavioral Ecology, 21*, 906–912. doi:10.1093/beheco/arq078
- Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin, 118*, 3–34. doi:10.1037/0033-2909.118.1.3
- Kenrick, D. T., Griskevicius, V., Neuberg, S. L., & Schaller, M. (2010). Renovating the pyramid of needs: contemporary extensions built upon ancient foundations. *Perspectives on Psychological Science, 5*, 292–314. doi:10.1177/1745691610369469
- Kenrick, D. T., Groth, G. E., Trost, M. R., & Sadalla, E. K. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. *Journal of Personality and Social Psychology, 64*, 951–969. doi:10.1037/0022-3514.64.6.951
- †Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflect sex differences in human reproductive strategies. *Behavioral and Brain Sciences, 15*, 75–91. doi:10.1017/S0140525X00067595
- †Kenrick, D. T., Neuberg, S. L., Zierk, K. L., & Krones, J. M. (1994). Evolution and social cognition: Contrast effects as a function of sex, dominance, and physical attractiveness. *Personality and Social Psychology Bulletin, 20*, 210–217. doi:10.1177/0146167294202008
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality, 58*, 97–116. doi:10.1111/j.1467-6494.1990.tb00909.x
- Le, B., Dove, N. L., Agnew, C. R., Korn, M. S., & Mutso, A. A. (2010). Predicting nonmarital romantic relationship dissolution: A meta-analytic synthesis. *Personal Relationships, 17*, 377–390. doi:10.1111/j.1475-6811.2010.01285.x
- †Lenton, A. P., & Francesconi, M. (2010). How humans cognitively manage an abundance of mate options. *Psychological Science, 21*, 528–533. doi:10.1177/0956797610364958
- Levinger, G., & Snoek, J. D. (1972). *Attraction in relationship: A new look at interpersonal attraction*. Morristown, NJ: General Learning.
- †Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology, 82*, 947–955. doi:10.1037/0022-3514.82.6.947
- Li, N. P., & Kenrick, D. T. (2006). Sex similarities and differences in preferences for short-term mates: What, whether, and why. *Journal of Personality and Social Psychology, 90*, 468–489. doi:10.1037/0022-3514.90.3.468
- †Li, N. P., Yong, J. C., Tov, W., Sng, O., Fletcher, G. J., Valentine, K. A., . . . Balliet, D. (2013). Mate preferences do predict attraction and choices in the early stages of mate selection. *Journal of Personality and Social Psychology, 105*, 757–776. doi:10.1037/a0033777
- †Lichter, D. T., Anderson, R. N., & Hayward, M. D. (1995). Marriage markets and marital choice. *Journal of Family Issues, 16*, 412–431. doi:10.1177/019251395016004001
- †Lippa, R. A. (2007). The preferred traits of mates in a cross-national study of heterosexual and homosexual men and women: An examination of biological and cultural influences. *Archives of Sexual Behavior, 36*, 193–208. doi:10.1007/s10508-006-9151-2
- †Marlowe, F. W. (2001). Male contribution to diet and female reproductive success among foragers. *Current Anthropology, 42*, 755–760. doi:10.1086/323820
- Marlowe, F. W. (2003). A critical period for provisioning by Hadza men: Implications for pair bonding. *Evolution and Human Behavior, 24*, 217–229. doi:10.1016/S1090-5138(03)00014-X
- Marlowe, F. W. (2004). Mate preferences among Hadza hunter-gatherers. *Human Nature, 15*, 365–376. doi:10.1007/s12110-004-1014-8
- Meltzer, A. L., McNulty, J. K., Jackson, G., & Karney, B. R. (in press). Sex differences in the implications of partner physical attractiveness for the trajectory of marital satisfaction. *Journal of Personality and Social Psychology*.
- Miller, L. C., & Fishkin, S. A. (1997). On the dynamics of human bonding and reproductive success: Seeking windows on the adapted-for human-environmental interface. In J. A. Simpson & D. T. Kenrick (Eds.), *Evolutionary social psychology* (pp. 197–236). Mahwah, NJ: Erlbaum.
- Miller, R. S. (2012). *Intimate relationships* (6th ed.). New York, NY: McGraw-Hill.
- †Nettle, D., & Pollet, T. V. (2008). Natural selection on male wealth in humans. *The American Naturalist, 172*, 658–666. doi:10.1086/591690
- Orth, U. (2013). How large are actor and partner effects of personality on relationship satisfaction? The importance of controlling for shared method variance. *Personality and Social Psychology Bulletin, 39*, 1359–1372. doi:10.1177/0146167213492429
- †Pérusse, D. (1994). Mate choice in modern societies. *Human Nature, 5*, 255–278. doi:10.1007/BF02692154
- †Pettay, J. E., Helle, S., Jokela, J., & Lummaa, V. (2007). Wealth class-specific natural selection on female life-history traits in historical human populations. *PLOS ONE, 2*(7), e606. doi:10.1371/journal.pone.0000606
- †Pflüger, L. S., Oberzaucher, E. K., Holzleitner, I. J., & Grammer, K. (2012). Cues to fertility: Perceived attractiveness and facial shape predict reproductive success. *Evolution and Human Behavior, 33*, 708–714. doi:10.1016/j.evolhumbehav.2012.05.005
- †Pillsworth, E. G. (2008). Mate preferences among the Shuar of Ecuador: Trait rankings and peer evaluations. *Evolution and Human Behavior, 29*, 256–267. doi:10.1016/j.evolhumbehav.2008.01.005
- Regan, P. C., Levin, L., Sprecher, S., Christopher, F. S., & Cate, R. (2000). Partner preferences: What characteristics do men and women desire in their short-term sexual and long-term romantic partners? *Journal of Psychology & Human Sexuality, 12*, 1–21. doi:10.1300/J056v12n03\_01
- Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin, 140*, 140–187. doi:10.1037/a0031859
- †Sadalla, E. K., Kenrick, D. T., & Vershure, B. (1987). Dominance and heterosexual attraction. *Journal of Personality and Social Psychology, 52*, 730–738. doi:10.1037/0022-3514.52.4.730



- Schmitt, D. P. (2014). On the proper functions of human mate preference adaptations: Comment on Eastwick, Luchies, Finkel, and Hunt (2014). *Psychological Bulletin*, *140*, 666–672. doi:10.1037/a0036225
- Schmitt, D. P., & Buss, D. M. (1996). Strategic self-promotion and competition derogation: Sex and conflict effects on perceived effectiveness of mate attraction tactics. *Journal of Personality and Social Psychology*, *70*, 1185–1204.
- †Schmitt, D. P., Couden, A., & Baker, M. (2001). Sex, temporal context, and romantic desire: An experimental evaluation of sexual strategies theory. *Personality and Social Psychology Bulletin*, *27*, 833–847. doi:10.1177/0146167201277006
- Sear, R., & Mace, R. (2008). Who keeps children alive? A review of the effects of kin on child survival. *Evolution and Human Behavior*, *29*, 1–18. doi:10.1016/j.evolhumbehav.2007.10.001
- Shackelford, T. K., & Buss, D. M. (1997). Marital satisfaction in evolutionary psychological perspective. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 7–25). New York, NY: Guilford Press.
- Shackelford, T. K., & Buss, D. M. (2000). Marital satisfaction and spousal cost-infliction. *Personality and Individual Differences*, *28*, 917–928. doi:10.1016/S0191-8869(99)00150-6
- Shackelford, T. K., Goetz, A. T., & Buss, D. M. (2005). Mate retention in marriage: Further evidence of the reliability of the mate retention inventory. *Personality and Individual Differences*, *39*, 415–425. doi:10.1016/j.paid.2005.01.018
- †Smith, E. A. (2004). Why do good hunters have higher reproductive success? *Human Nature*, *15*, 343–364. doi:10.1007/s12110-004-1013-9
- Smith, E. A., Borgerhoff Mulder, M., & Hill, K. (2001). Controversies in the evolutionary social sciences: A guide for the perplexed. *Trends in Ecology and Evolution*, *16*, 128–135. doi:10.1016/S0169-5347(00)02077-2
- Stewart-Williams, S., & Thomas, A. (2013). The ape that thought it was a peacock: Does evolutionary psychology exaggerate human sex differences? *Psychological Inquiry*, *24*, 137–168. doi:10.1080/1047840X.2013.804899
- †Stirrat, M., Gumert, M., & Perrett, D. (2011). The effect of attractiveness on food sharing preferences in human mating markets. *Evolutionary Psychology*, *9*, 79–91.
- Tancredy, C. M., & Fraley, R. C. (2006). The nature of adult twin relationships: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, *90*, 78–93. doi:10.1037/0022-3514.90.1.78
- †Todd, P. M., Penke, L., Fasolo, B., & Lenton, A. P. (2007). Different cognitive processes underlie human mate choices and mate preferences. *Proceedings of the National Academy of Sciences, USA*, *104*, 15011–15016. doi:10.1073/pnas.0705290104
- †Townsend, J. M., & Levy, G. D. (1990). Effects of potential partners' physical attractiveness and socioeconomic status on sexuality and partner selection. *Archives of Sexual Behavior*, *19*, 149–164.
- Wells, G. L., & Windschitl, P. D. (1999). Stimulus sampling and social psychological experimentation. *Personality and Social Psychology Bulletin*, *25*, 1115–1125. doi:10.1177/01461672992512005
- Winking, J. (2006). Are men really that bad as fathers? The role of men's investments. *Biodemography and Social Biology*, *53*, 100–115. doi:10.1080/19485565.2006.9989119
- Wood, B. M., & Marlowe, F. W. (2013). Household and kin provisioning by Hadza men. *Human Nature*, *24*, 280–317. doi:10.1007/s12110-013-9173-0

Received January 9, 2014

Revision received January 20, 2014

Accepted January 27, 2014 ■