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MALE IMMORALITY: AN EVOLUTIONARY ACCOUNT OF SEX DIFFERENCES IN UNETHICAL NEGOTIATION BEHAVIOR

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Past research has found that men negotiate more unethically than women, although many studies report comparable rates of unethical negotiation behaviors. Based on evolutionary psychology, we predict conditions under which sex differences in unethical negotiation behavior are more versus less pronounced. We theorize that greater levels of unethical behavior among men occur because of greater male intrasexual competition for mates. This suggests that more male unethical negotiation behavior should primarily emerge in situations associated with intrasexual competition. Using a two-wave survey design, Study 1 found a positive relationship between mating motivation and unethical negotiation behavior for male, but not female, employees. Study 2 was a controlled experiment, replicating this effect and showing that the gender difference was most pronounced when negotiating with same-sex, attractive opponents. Study 3 used a similar experimental design and found support for another implication of evolutionary theory—that mating motivation would prompt unethical behavior in both men and women when the behavior constitutes a less severe norm violation. We discuss contributions to the literature on unethical behavior at work, negotiations, and the role of attractiveness in organizations.

Many negotiations are competitive interactions in which negotiators seek to maximize their outcomes. To this end, negotiators sometimes resort to unethical tactics. They may lie about their alternatives, misrepresent the quality of their products, and make false promises for future action (Garcia, Darley, & Robinson, 2001; Kern & Chugh, 2009; Murnighan, Babcock, Thompson, & Pillutla, 1999; O'Connor & Carnevale, 1997). Such unethical negotiating behavior is "either illegal or morally unacceptable to the larger community" (Jones, 1991) and can lead to impasse (Volkema, Fleck, & Hofmeister-Toth, 2004), long-term mistrust (Schweitzer, Hershey, & Bradlow, 2006), and harm the relationship quality between organizations (Hill, Eckerd, Wilson, & Greer, 2009). Understanding when and why employees use unethical negotiation tactics can help prevent such negative outcomes from occurring.

The negotiations literature has long considered sex differences as a fundamental negotiator characteristic affecting negotiation behavior and outcomes, leading Kray and Thompson (2004: 104) to conclude that "whether gender differences exist at the negotiation table is a timeless question" (see also Kray & Babcock, 2006). Compared to women, men negotiate more frequently (Babcock, Laschever, Gelfand, & Small, 2003), reciprocate less (Croson & Gneezy, 2009), and generally behave more competitively (Walters, Stuhlmacher, & Meyer, 1998). Overall, men also seem to achieve

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better outcomes in negotiations (e.g., Amanatullah & Morris, 2010; Kray & Thompson, 2004; Mazei, Hüffmeier, Freund, Stuhlmacher, Bilke, & Hertel, 2015; Stuhlmacher & Walters, 1999). Men may achieve these superior outcomes by negotiating more unethically than women (e.g., Haselhuhn & Wong, 2011; Kennedy & Kray, 2014; Kray & Haselhuhn, 2012; Westbrook, Arendall, & Padelford, 2011).

Sex differences in unethical negotiation behavior are consistent with meta-analytic reviews summarizing sex differences in unethical work behaviors (Kish-Gephart, Harrison, & Treviño, 2010). On average, men behave more unethically than women in work interactions. However, there is considerable heterogeneity in existing findings, with some studies finding no sex differences in unethical work behavior (e.g., Hegarty & Sims, 1978, 1979). The negotiation context is no exception. Occasionally studies report that men and women negotiate unethically to a comparable extent (e.g., Childs, 2012; Maurice & Rachel, 1999; Miller, 1967; Muehlheusser, Roider, & Wallmeier, 2015; Pruitt & Syna, 1985). The variance in findings suggests that certain situations entice men to negotiate unethically whereas other situations do not.

We believe that extant theories warrant extension in terms of their ability to explain such heterogeneity in sex differences. In fact, research on sex differences in unethical behaviors has been characterized as atheoretical (Franke, Crown, & Spake, 1997; Kish-Gephart et al., 2010). An exception is a handful of studies that proposed socialization as an explanation for sex differences in unethical work (e.g., Betz, O'Connell, & Shepard, 1989; Franke et al., 1997) and negotiation behavior (e.g., Kray & Haselhuhn, 2012; Ma, 2010; Westbrook et al., 2011). Socialization-based explanations focus on the fact that sex differences are learned from socializing agents. While we agree that socialization is important, in this research we extend socialization-based perspectives by integrating them with evolutionary theory. The goal of this theoretical integration is to increase the predictive capability of existing models by specifying the conditions under which sex differences in unethical negotiation behavior should be more pronounced, which can explain the heterogeneity in sex differences in unethical negotiation behavior. More importantly, the theoretical integration provides a richer explanation of unethical behavior at the ultimate (rather than just proximate) level of causation by explaining *why* this particular sex difference (rather than the opposite sex difference or no sex difference) would be promoted through socialization.

Evolutionary models have been largely neglected by organizational behavior scholars although they can predict interesting and currently underexamined conditions under which sex differences are likely to emerge. Recent research revealed that sex differences in social behavior stemming from different evolved patterns of intrasexual competition among men and women are more strongly expressed when people have a greater desire to mate and when the situation signals more same-sex competition (Baker & Maner, 2008; Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006b). We propose that more unethical negotiation behavior in males follows a similar logic: Sex differences in unethical negotiation behavior are more likely to occur when mating motives are chronically or temporarily salient in the (male) negotiator's mind. Specifically, we expect mating motivation to make men negotiate more unethically than women. This should be particularly true in negotiations with an attractive same-sex opponent, because attractive men are stronger competitors than unattractive men. The sex difference should also be stronger with respect to more severe unethical behaviors, which present a higher risk of third-party negative responses. The reason being that such negative third-party responses directed toward women, compared to men, were more costly in terms of reproductive fitness (Campbell, 1999; Griskevicius, Tybur, Gangestad, Perea, Shapiro, & Kenrick, 2009). In contrast, when mating motivation is not salient, when men negotiate with unattractive men, or when unethical behavior is less severe, sex differences in unethical negotiation behaviors should be attenuated.

We test our theory across three studies focusing on distributive negotiations because distributive negotiations represent a clear situation in which one can gain an advantage over potential intrasexual competitors by behaving unethically. We comment in the discussion section on how our theory may generalize to other negotiation settings. Study 1 was a two-wave field study that allowed us to test whether negotiator mating motivation predicts unethical negotiation behavior more strongly in males than in females. Study 2 was a controlled experiment in which we manipulated mating motivation, opponent sex, and opponent attractiveness and measured unethical negotiation behavior in a standardized negotiation task. In Study 3, we vary the type of unethical behavior participants had an opportunity to engage in to examine whether

mating motivation also prompts unethical behavior among women when unethical behavior constitutes a less severe violation of the norms of socially acceptable behavior.

In addition to highlighting the crucial role of intrasexual competition as a driver of sex differences in unethical negotiation behavior, we make several important theoretical and practical contributions. First, we provide a parsimonious theory for sex differences in unethical behavior, a phenomenon that has been the focus of much past research (Kish-Gephart et al., 2010; Treviño, den Nieuwenboer, & Kish-Gephart, 2014), but is undertheorized. Second, we provide a framework that can help detect conditions under which men display greater levels of unethical behavior than women. Third, we contribute to the negotiations literature, which largely assumed that attractive people are afforded better outcomes in negotiation (Rosenblat, 2008; Solnick & Schweitzer, 1999). Our work qualifies this assumption by showing that attractiveness can be a hindrance to male negotiators by evoking unethical behavior from male opponents. Fourth, we contribute to psychological work on sex-specific mating strategies by theoretically extending existing theory to the domain of unethical behavior and deriving novel and consequential boundary conditions of mating motivation effects, including others' physical attractiveness and norm violation severity. Finally, a broader contribution of our work is that we draw on evolutionary psychology to advance the understanding of a costly organizational phenomenon. The use of evolutionary theory in organizational research is sparse despite the fact it provides a parsimonious and generative framework that has been used to explain long-standing puzzles about human behavior, including conformity, altruism, and creativity (Griskevicius, Cialdini, & Kenrick, 2006a; Griskevicius et al., 2006b; Griskevicius, Tybur, Sundie, Cialdini, Miller, & Kenrick, 2007). We hope that our paper opens new avenues in organizational research by demonstrating the potential of evolutionary psychology to explain important organizational phenomena.

INTEGRATING SOCIALIZATION-BASED PERSPECTIVES AND EVOLUTIONARY THEORY

The evolutionary perspective on sex differences in social behavior is grounded in parental investment theory (Trivers, 1972). This theory provides an explanation for why there are fundamental sex differences in social behavior. The theory assumes that men and women faced systematically different reproductive challenges throughout evolutionary history because of differences in minimal obligatory parental investment of each sex (Trivers, 1985). Women undergo an energy-consuming nine-month process of fertilization and gestation that forecloses reproductive opportunities during that period. Women can only reproduce a limited number of times in their lifetime. Choosing a sub-optimal mating partner thus had major implications for women's long-term reproductive success. In contrast, the obligatory parental investment for men may involve as little as engaging in a single act of sexual intercourse. Men can reproduce almost an unlimited number of times, and historical records show that some high-status individuals such as kings had offspring in the thousands (Betzig, 1986). For that reason, males faced lower fitness costs of mating with a sub-optimal partner, which resulted in men evolving to be less selective than women in choosing potential mates (Buss, 1994b; Kenrick, Sadalla, Groth, & Trost, 1990). The lower choosiness of men and the greater selectivity of women imply that there will be more men competing for the opportunity to mate with any given woman than there will women competing for any given man. There will be a greater number of potential rivals for mates among men, and men will have to compete more fiercely to mate than women (Buss, 1994a).

A large body of evidence from different animal species supports the predictions of parental investment theory regarding intrasexual competition (Trivers, 1985). The lesser-investing sex displays a greater level of intrasexual competition which fuels a range of physical sex differences, including those in size, strength, and longevity (Bjorklund & Shackelford, 1999; Trivers, 1985). More relevant to our question, research finds higher levels of competitiveness (Van Vugt, De Cremer, & Janssen, 2007) and aggression (Archer, 2004) in men compared to women. Moreover, men's aggressive behavior is primarily targeted at other men (Kenrick & Sheets, 1993; Wilson & Daly, 1985). Aggression among men evolved as an intrasexual competition strategy because it allowed individuals to outperform others by way of inflicting harm to direct rivals, deterring potential rivals, and gaining status through dominance displays (Archer, 1988; Buss & Shackelford, 1997).

We propose that more unethical negotiation behavior among men might also be a consequence of

men's evolved behavioral tendencies for intrasexual competition. Just as same-sex aggression offers ways for men to win competitions with other males, so does unethical behavior. The existence of norms of morally appropriate conduct had tremendous benefits, allowing individuals to function well as groups and achieve better outcomes (e.g., sharing resources, fighting against predators) than they could have achieved alone (Axelrod & Hamilton, 1981; Krebs, 2008). However, at the level of individual competitors for mates, there has always been an incentive to transgress norms if the transgression gave the individual an advantage over other competitors. The evolutionary literature has identified many such norm violating behaviors including deception (Cummins, 1998), cuckoldry (Platek & Shackelford, 2006), and theft of resources (Buss & Duntley, 2008). Men could have certainly competed through ethical means. However, in situations in which unethical behavior afforded the opportunity to outperform competitors more easily than what was possible through ethical means, men who engaged in such behavior could have gained an important advantage over men who did not behave unethically. As in the case of aggression, and perhaps even more effectively, unethical behavior could have conferred such an advantage.

Transgressing the norms of ethical conduct was also less costly among men than women in evolutionary fitness terms, which was likely another contributing factor to the greater reliance on unethical behavior as an intrasexual competition strategy among men. Unethical behavior elicits risks of social sanctions since communities are interested in upholding the norms of ethical behavior to maintain social order (Fehr & Gächter, 2002). Those who violate standards of appropriate behavior risk social repercussions, both informal (e.g., gossip, ostracism) and formal (e.g., legal prosecution). Evolutionarily, such potential costs associated with the reliance on unethical behavior as an intrasexual competition strategy had greater implications for women in terms of the ability to successfully pass down genes to the next generations. This prediction is also derived from parental investment theory (Trivers, 1972). Specifically, because women have a more important role in taking care of offspring, any social repercussions that might arise from unethical behavior used to outperform intrasexual competitors will be more costly in terms of the ability of a gene pool to be passed down to subsequent generations (Campbell, 1999; Griskevicius et al., 2009). This notion underlies explanations for greater levels of aggression in men:

> Although both sexes can incur bodily harm from same-sex aggression, such harm for a woman may be costlier than for a man: Because women are the primary caretakers for offspring, they are more critical to offspring survival (Campbell, 1999; Taylor[, Klein, Lewis, Gruenewald, Gurung, & Updegraff], 2000). For instance, whereas the lack of an investing father moderately decreases the likelihood of an offspring's survival, the lack of a mother nearly eliminates a child's probability of reaching adulthood in traditional societies (Hill & Hurtado, 1996; Voland, 1988). (Griskevicius et al., 2009: 982)

Similarly, social penalties in response to moral transgressions are likely to negatively impact a woman's ability to care for a child. These might include physical harm, or other types of harm such as social exclusion or a damaged reputation, which can reduce the amount of cooperation a woman receives from others, for example through protection or food sharing (Benenson, 2013).

In sum, parental investment theory suggests that men faced higher incentives as well as lower costs to engage in unethical behavior as an intrasexual competition strategy, which might explain why and when men behave more unethically than women. To test the idea that men engage in more unethical behavior than women because of their evolved tendencies for intrasexual competition, we examine the relationship between mating motivation and unethical negotiation behavior among men and women in distributive negotiation settings. Mating motivation, or people's desire to reproduce, varies both between and within individuals. For instance, younger people tend to be more motivated to mate than older people (Wilson & Daly, 1985) and browsing through pictures of attractive opposite-sex individuals increases mating motivation (Baker & Maner, 2008). Examining how individual variation in mating motivation is related to unethical negotiation behavior allows us to test the theory that men engage in more unethical behavior because of their evolved tendencies for intrasexual competition. Such tendencies should be more strongly expressed when mating motivation is temporarily or chronically salient (Griskevicius et al., 2006b; Maner et al., 2005).

Consider the following example that illustrates how past research tested hypotheses that a certain phenomenon is related to an evolved tendency for intrasexual competition. Li, Kenrick, Griskevicius, and Neuberg (2012) proposed that loss aversion, the fact

that resource losses have more impact than equivalent resource gains, should be eliminated among men, but not women, when their mating motivation is high. Men who ignored losses when competing with other men over the course of evolutionary history stood a greater chance of improving their status and attracting mates. Consistent with this idea, Li et al. (2012) found that activating mating motives (asking participants to imagine meeting a desirable person of the opposite sex) reduced loss aversion in men, but not in women (who are less intrasexually competitive due to the reasons we discussed previously). The same testing approach has been widely used in modern evolutionary research (see Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010; Neuberg, Kenrick, & Schaller, 2010, for reviews).

We take a similar approach by examining the relationship between mating motivation and sex differences in unethical negotiation behavior. If a greater level of unethical negotiation behavior in men is a result of men's tendencies for intrasexual competition, then this tendency should be more strongly expressed when men's level of mating motivation is high. Greater levels of mating motivation should activate the associated psychological and behavioral tendencies developed to facilitate attainment of mating goals which, if our theory is correct, should result in greater levels of unethical negotiation behavior among men compared to women.

The focus on mating motivation also allows us to demonstrate the added explanatory capability and thus contribution of our theory to socialization-based perspectives. Specifically, socialization theories of unethical behavior would not predict that mating motivation should affect unethical negotiation behavior. The prediction we make for the effect of mating motives among men versus women could also not be derived from socialization processes alone because if mating motives affected propensity for unethical negotiation due to its effect on sex roles, then mating motives should have an effect among both men and women. Finally, we also specify and test several additional boundary conditions in Study 2 and 3 implied by our theory that could not be derived from socialization-based perspectives, providing a conservative test of our explanation and demonstrating the increase in explanatory capability obtained through the integration of socialization-based perspectives and evolutionary theory.

Materials for studies testing hypotheses specified in study introductions, datasets, and analyses syntaxes can be accessed online at the following link (temporarily anonymized to preserve blind peer review): https://osf.io/z2ipw/?view_only=df6100fffb90456690bca4e1cc4ff75f.

THEORY

Recent psychological research on sex differences in social behavior acknowledges the importance of both biological as well as social factors on sex differences in social behavior (Buss, 2015; Eagly & Wood, 2013; Wood & Eagly, 2013). However, work on sex differences in (un)ethical work behavior specifically was largely devoid of theoretical grounding, or alternatively focused solely on different socialization patterns among men and women (Betz et al., 1989; Franke et al., 1997; Ma, 2010; McCabe, Ingram, & Dato-on, 2006; Volkema, 2004; Westbrook et al., 2011). Franke et al. (1997) noted that research on sex differences in (un)ethical behavior has been "largely atheoretical" and that even "studies providing more comprehensive reviews of gender effects have been limited to descriptive 'vote counting' without theoretical underpinnings."

One notable socialization-based perspective of sex differences in unethical behavior suggests that differential treatment beginning in childhood of men and women imparts a lastingly different gender identity. Gilligan (1982) argued that boys and girls are socialized into different behavioral patterns, resulting in a stronger emphasis on relationships and care among women. Similarly, Ruegger and King (1992) maintained that parents condone aggressive behavior among boys, but not girls, which should result in more unethical behavior among male adults (see also Betz et al., 1989). Criminologists similarly view sex differences in unethical behaviors as caused by boys being subject to less parental supervision than girls (Simmons & Blyth, 1987); this is believed to result in lower self-control and more rule-breaking propensity among male adults, compared to females (Gottfredson & Hirschi, 1990; LaGrange & Silverman, 1999). Recent research in the context of negotiation draws on this perspective to propose that men act in ways consistent with their gender identity, including behaving more unethically during negotiation. Men are particularly likely to exhibit such behavior when they feel a need to reaffirm their gender identity, as suggested by work based on precarious manhood where men become more competitive when they feel that they have something to prove (Kray & Haselhuhn, 2012). In sum, the socialization-based perspective argues that sex differences in unethical behaviors are primarily

a product of early childhood socialization and that men remain more unethical than women later in life.

A second socialization-based perspective proposes that society imposes different role expectations on men and women, and these expectations cause sex differences in unethical behaviors. People behave consistently with the stereotype attached to their social roles (Eagly, 1987). Because women are stereotyped as more communal and less selfish than men (Eagly & Wood, 1991), role expectations may explain why women would want to behave less unethically than men (McCabe et al., 2006; Westbrook et al., 2011). Role-consistent behavior has similarly been shown to explain sex differences in negotiation behavior (Olekalns, Kulik, & Chew, 2014). The role expectation that women behave more ethically in negotiations may in turn prompt people to take advantage of that fact and be particularly unethical toward women (Kray, Kennedy, & Van Zant, 2014). This perspective is more flexible than the childhood experience account because people can take on multiple social roles during their life. Prescriptions associated with some roles, such as the role of a manager, can potentially override prescriptions associated with other roles such as being a female (Franke et al., 1997; Robin & Babin, 1997).

These socialization-based perspectives of unethical behavior, and unethical behavior in negotiation more specifically, state that sex differences in unethical behavior are either learned through parental behavior, or through expectations society communicates to individuals. We believe that such mechanisms do occur and influence unethical negotiation behavior (Croson & Gneezy, 2009). Clearly, people are influenced both by their upbringing as well as by societal expectations. However, we propose that these perspectives warrant a theoretical extension that provides a richer and more well-rounded account of sex differences in unethical behavior.

The key reason why we believe socialization-based perspectives warrant a theoretical extension is that they primarily focus on *how* social factors lead to the adoption, transmission, and maintenance of sex differences. They do not explain *why* the specific social expectations for behavior would differ between men and women in the first place (Gangestad & Buss, 1993; Kenrick, Maner, & Li, 2005). For example, it is not entirely clear why parents would permit more unethical behavior among their sons instead of simply discouraging unethical behavior equally among both their sons and daughters. Saying that men and women are socialized into different behavioral patterns may be merely a description of one mechanism by which sex differences are perpetuated rather than an explanation for why they occur. In a similar vein, Kenrick et al. (2005) noted that "appealing to social norms may simply redescribe a phenomenon, rather than explain its roots."

We also believe that the ability of socialization-based perspectives warrant extension in their power to explain the heterogeneity of gender effects in unethical behavior we reviewed at the outset of the paper. These perspectives are relatively inflexible and predict that sex differences should be consistently obtained among people exposed to similar socialization pressures (e.g., Hegarty & Sims, 1978, 1979; McNichols & Zimmerer, 1985; Smith & Rogers, 2000). However, even among populations exposed to similar socialization pressures, such as college students, there is heterogeneity in terms of sex differences in unethical behavior (e.g., Betz et al., 1989; Ruegger & King, 1992). As noted before, Kray and Haselhuhn (2012) found that sex differences are amplified when men feel like they need to reaffirm their gender identity, but this factor was not systematically varied across the studies we cited which demonstrate heterogeneity in sex differences. While such evidence is not conclusive, socialization-based perspectives seem to warrant a theoretical extension that would provide additional explanations for why people occupying similar roles would exhibit sex differences in some situations but not in others. We believe that integrating socialization theories with the evolutionary theory allows for a more nuanced and parsimonious account predicting the conditions under which sex differences in unethical negotiation behavior arise.

STUDY 1: SURVEY

Study 1 tested our theory in the field to examine whether mating motivation could account for sex differences in unethical behavior. We conducted a two-wave study among employed adults who engage in negotiation as part of their work. In the first wave, we measured employees' mating motivation and various control variables, ostensibly as part of a study focusing on work–life balance. In the second wave, we collected a measure of employees' propensity to negotiate unethically.

We tested our theory using two approaches to provide a thorough test. The first approach is to examine the effect of mating motivation as a function of

employee sex. Our theory implies a two-way interaction between mating motivation and employee sex such that greater mating motivation is associated with a greater level of unethical negotiation behavior, but primarily among men. This pattern of findings would provide evidence for the argument that more unethical negotiation behavior in men is in part a consequence of evolved tendencies for intrasexual competition. We hypothesize:

Hypothesis 1a. There is a stronger positive effect of mating motivation on unethical negotiation behavior for men compared to women.

The second theory test examines the effect of employee sex as a function of the level of mating motivation. Our theory implies that men should negotiate more unethically than women, but primarily when their level of mating motivation is high rather than low. This pattern of findings would demonstrate that sex differences in unethical negotiation behavior can at least in part be explained by the fact that men more than women engage in unethical behavior as a result of their evolved tendency for intrasexual competition. This result would also reveal a boundary condition for sex differences in unethical negotiation behavior (level of mating motivation) that might help explain the heterogeneity in sex differences in unethical behavior. We predict:

Hypothesis 1b. Men negotiate more unethically than women primarily when mating motivation is high rather than low.

Procedure and Sample

We advertised Study 1 to employed adults from a participant pool maintained by a behavioral lab of a business school. The advertisement stated that we were conducting a research project on work-related topics and that participants who signed up would be invited to participate in one or more surveys. Individuals in this behavioral lab's participant pool were notified of available studies via e-mail. Because we sought to examine unethical negotiation behavior among both men and women, we strived to attain a balanced sex ratio by advertising the study to small batches of potential participants (around 50) at a time. This allowed us to adjust the ratio of males versus females in subsequent batches to which the study was advertised based on the sex ratio of those who had already signed up for the study. There were no exclusions of participants in any of the studies.

A total of 312 people participated in the Time 1 survey. Nine participants responded to the Time 1 survey twice, almost all of them the second time several days after the initial response, which might indicate they forgot they had already completed the survey. We retained their first responses for data analyses.

The Time 1 survey was said to focus on employees' work–life balance and contained all our independent and control variables (described in more detail in the measurement section). The survey opened with questions concerning participants' work, including years of work experience, tenure in their current organization, the industry their organization belonged to, their organization's size, and participants' job satisfaction. We also asked participants to indicate the duties they perform as part of their work, including whether they engaged in negotiations. In addition, the Time 1 survey inquired about participants' personal situation, including measures of participants' mating motivation and the control variables, ostensibly to allow us to assess their work–life balance.

A total of 150 participants who responded to the Time 1 survey indicated engaging in negotiation as part of their work. We invited only those who responded that they negotiate as part of their work to participate in the Time 2 survey. These participants were paid £10 to complete the study. The remaining 162 participants, who indicated not engaging in any negotiation activities as part of their work, were not invited to participate in the Time 2 survey, and as compensation for participating in the Time 1 survey only, were entered into a raffle of five prizes of £20 each. All participants were given an option of personally collecting their remuneration at the lab or receiving it in the form of vouchers for an online retailer.

Of the 150 participants invited to participate in the Time 2 survey, 141 accepted the invitation. Participants received the Time 2 survey a week after having taken the Time 1 survey. The Time 2 survey contained the measure of our dependent variable, participants' tendency to behave unethically in negotiation. The independent and dependent measures were collected at two different points in time to reduce common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition, by using two time-separated data collections with two different cover stories, we sought to minimize the risk of demand effects.

The final sample consisted of 138 employed adults who provided complete responses. Participants

were 52.9% female and, on average, 32.98 years old (SD = 8.74). They came from different industries, including educational services (26.81%), professional, scientific, or technical services (15.22%), arts, entertainment, and recreation (8.70%), finance and insurance (7.25%), health care (5.80%), and retail trade (5.07%). The size of participants' organization ranged from very small (1–4 employees) to large (over 1,000 employees), with an average in the category of 100 to 249 employees. Work experience ranged from 1 to 41 years (mean = 10.30, SD = 8.15).

Measures

Mating motivation. Participants were asked to indicate the degree to which they were interested in pursuing various non-work activities (e.g., "artistic activities," "charitable activities") on a scale ranging from 1 = "not at all" to 5 = "extremely." Among these items we embedded the item "romantic/sexual activities," developed and used in prior research to measure participants' mating motivation (Baker & Maner, 2008). The key benefit of this measure is that because of a strong cover story focused on work versus personal life, and because it is embedded among other similar items inquiring about personal interests, it is unlikely to evoke suspicion. For this reason, we also remained consistent with prior research in using a short but face-valid measure.

Unethical negotiation behavior. We measured this construct using the 16-item unethical negotiation strategies scale (Robinson, Lewicki, & Donahue, 2000). The items in this scale were inductively developed based on different sources of information on the types of unethical behaviors that tended to occur in managerial negotiations. Participants were asked to indicate on a 7-point scale (1 = "never" to 7 = "always") the frequency with which they engaged in several unethical negotiation tactics given an opportunity to do so. In case they never had an opportunity to engage in a behavior described, an "n/a" option was available. Sample items are "Intentionally misrepresent information to your opponent in order to strengthen your negotiating arguments or position" and "In return for concessions from your opponent now, offer to make future concessions which you know you will not follow through on;" α = .89.

Control variables. We controlled for several variables that might be related to mating motivation and unethical behavior. *Age* has been shown to be relevant to mating motivation and the concomitant intrasexual competition behavior (Wilson & Daly, 1985) as well as unethical behavior (Kish-Gephart et al., 2010), so we controlled for respondents' age.

Personal power has been linked with both sexual goals (Kunstman & Maner, 2011) as well as the propensity to behave unethically (Kipnis, 1972). Therefore, we measured participants' power using four items of the Sense of Power scale (Anderson, John, & Keltner, 2012; Sivanathan & Pettit, 2010). Sample items are: "I think I have a great deal of power" and "If I want to, I get to make the decisions;" α = .72.

Status has similarly been suggested as an important variable in mating dynamics (Buss, 1989), as well as a variable that might affect people's propensity to engage in unethical behavior (Piff, Stancato, Côté, Mendoza-Denton, & Keltner, 2012). We therefore used a 5-item measure taken from Anderson, Kraus, Galinsky, and Keltner (2012) to measure respondents' status. Sample items are "I have high social standing" and "I am held in high regard by others;" α = .88.

Because *mood* may affect sexual motivation (Lykins, Janssen, & Graham, 2006) as well as the propensity to behave unethically (Craciun, 2006), we asked participants to indicate what their mood was like generally using the PANAS (Positive and Negative Affect Schedule) measure (Watson, Clark, & Tellegen, 1988). Participants indicated using 5-point scales ranging from 1 = "definitely do not feel" to 5 = "extremely" to what extent they generally experienced 10 positive (e.g., "active," "inspired;" α = .90) and 10 negative emotions ("afraid," "guilty;" α = .91).

We also measured *job satisfaction* following a similar rationale as mood. Respondents indicated how satisfied they were with their job (1 = "strongly disagree," 5 = "strongly agree") using the 5-item job satisfaction index by Brayfield and Rothe (1951); α = .86.

Finally, because religiosity may affect sexual desire (Halpern, Udry, Campbell, Suchindran, & Mason, 1994) and has been found to be relevant for unethical conduct (Bloodgood, Turnley, & Mudrack, 2008), we asked respondents whether they considered themselves to be religious (0 = "no," 1 = "yes").

STUDY 1: RESULTS

The means, standard deviations, internal consistency of the measures, and correlations among variables are presented in Table 1.

Hypothesis 1a Test: Effects of Mating Motivation

We used ordinary least squares (OLS) regression analysis to test our predictions. In addition, as

TABLE 1
Study 1[a]: Variable Means, Standard Deviations, Internal Consistencies,[b] and Correlations[c]

Variable	Mean	*SD*	1	2	3	4	5	6	7	8	9
1. Unethical negotiation behavior	2.92	0.58	(.89)								
2. Mating motivation	3.57	1.05	0.18								
3. Sex	0.47	0.50	0.08	0.10							
4. Age	14.98	8.74	−0.09	−0.14	0.20						
5. Power	3.27	0.45	0.20	0.07	0.03	−0.03	(.72)				
6. Status	3.49	0.61	0.01	0.09	0.10	−0.14	0.57	(.88)			
7. Positive affect	3.73	0.58	0.05	0.10	−0.09	−0.05	0.39	0.58	(.90)		
8. Negative affect	2.19	0.72	0.12	−0.01	−0.05	−0.29	0.02	−0.09	−0.30	(.91)	
9. Job satisfaction	3.49	0.56	−0.07	−0.04	−0.08	0.10	0.13	0.25	0.34	−0.24	(.86)
10. Religiousness	1.48	0.50	−0.06	−0.14	0.06	−0.09	0.12	0.1	0.16	0.04	0.06

[a] $N = 138$.
[b] Internal consistency statistics (Cronbach's alphas) are displayed on the diagonal.
[c] Correlations greater than |.17| are significant at the .05 level.

a robustness check, we reanalyzed the data by: (1) using multilevel regression analysis with industry as the nesting variable; (2) adding additional organizational (e.g., organizational size) and personal (e.g., interest in pursuing other work-unrelated interests) control variables for which we did not have a theoretical basis to include them in the main analysis; (3) removing all control variables. All results reported below remained substantively unchanged.

As displayed in Table 2, participants' sex, mating motivation, their interaction, and all the control variables were entered in a model predicting participants' unethical negotiation behavior. The predicted interaction between participant sex and mating motivation on unethical negotiation behavior was significant, $b = 0.23$, $p = .014$. To interpret the interaction, we first investigated the effect of mating motivation among men versus women. Figure 1 depicts these conditional effects.

The analysis of conditional effects showed that mating motivation was associated with higher levels of unethical negotiation behavior among men, $b = 0.20$, $p = .005$, but not women, $b = -0.03$, $p = .614$. These results are consistent with Hypothesis 1a; supporting the reasoning that the greater level of unethical behavior in men compared to women is in part a consequence of evolved tendencies for intrasexual competition for mates.

Hypothesis 1b Test: Sex Differences

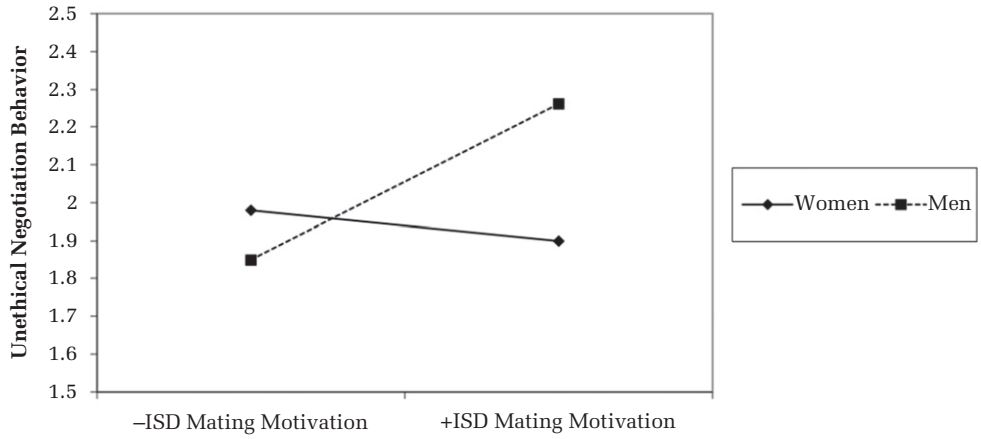
Next, we examined whether and when men negotiate more unethically than women. If the effect of

TABLE 2
Study 1: Results from OLS Regression Analysis of Unethical Negotiation Behavior[a]

Variables[b]	*b*	*SE*	*t*	*p*>t	LLCI	ULCI
Constant	2.05	0.57	3.60	<0.001	0.93	3.17
Mating motivation (A)	−0.03	0.06	−0.51	0.614	−0.15	0.09
Sex[b] (B)	−0.72	0.35	−2.00	0.045	−1.42	−0.01
A × B	0.23	0.09	2.50	0.014	0.05	0.42
Age	<0.01	0.01	−0.60	0.547	−0.02	0.01
Power	0.38	0.13	2.90	0.004	0.13	0.64
Status	−0.18	0.11	−1.60	0.115	−0.40	0.04
Positive affect	0.11	0.11	1.00	0.307	−0.11	0.34
Negative affect	0.08	0.07	1.10	0.285	−0.07	0.23
Job satisfaction	−0.03	0.09	−0.36	0.720	−0.21	0.15
Religiousness	−0.11	0.10	−1.10	0.265	−0.30	0.08

[a] $N = 138$. LLCI = 95% confidence interval lower limit; ULCI = 95% confidence interval upper limit.
[b] Sex was coded 1 for men and 0 for women.

FIGURE 1
Study 1: Simple Effects of Mating Motivation among Women and Men



mating motivation documented above is one explanation for why men in some (but not all) cases negotiate more unethically than women, then there should be a significant sex difference in the propensity to negotiate unethically, such that men negotiate more unethically, but primarily when mating motivation is high rather than low.

The analysis of conditional effects confirmed that men negotiated more unethically than women, but only when mating motivation was high (1 *SD* above the mean), $b = 0.36$, $p = .009$, but not when it was low (1 *SD* below the mean), $b = -0.13$, $p = .377$. These results show that the level of mating motivation is one important boundary condition explaining when and why men negotiate more unethically than women, supporting Hypothesis 1b.

STUDY 2: EXPERIMENT

Study 2 sought to bolster the internal validity of our conclusions by experimentally manipulating mating motivation and examining how it affects unethical negotiation behavior in a controlled setting. The experiment also tested the validity of our theory by specifying two boundary conditions under which we would expect to find sex differences in unethical behavior. Findings of sex differences within the theoretically generated boundary conditions should provide support for our theory and may suggest how the greater male propensity to behave unethically could be tempered. The first boundary condition that we examine is the opponent's sex. If the higher level of unethical negotiation behavior among men arises as a response evolved to succeed in intrasexual competition for mates, then we should see the higher level of unethical negotiation behavior only when men negotiate with other men, but not when they negotiate with women.

The second boundary condition we examine is opponent attractiveness. Attractive men present more formidable mating competitors than unattractive men because they are relatively more desirable to women (Buss, 2008; Ford & Beach, 1951; Maner, Gailliot, Rouby, & Miller, 2007; Sugiyama, 2005). Consequently, men should exhibit more unethical negotiation behavior when negotiating with more rather than less attractive male opponents. Taken together, evidence of these two boundary conditions would provide support for our theory by demonstrating that the effect varies as a function of variables that are relevant to intrasexual competition.

We test our theory by analyzing unethical negotiation behavior as a function of Study 2 variables (participant sex, mating motivation, opponent sex, and opponent attractiveness) to examine the effect of mating motivation as a function of the remaining situational factors. Our theory implies a four-way interaction among these factors whereby the three-way interaction among mating motivation, opponent sex, and opponent attractiveness is significant primarily among male participants, such that mating motivation increases the level of unethical behavior, but only when the opponent is male, and particularly an attractive male. In contrast, the three-way interaction among mating motivation, opponent sex, and opponent attractiveness should be weaker among female participants, such that mating motivation has a weaker effect among women regardless

of the sex or attractiveness of the negotiation opponent. This pattern of findings would provide evidence for the argument that unethical behavior is in part a consequence of evolved tendencies for intrasexual competition, but primarily in men. We hypothesize:

Hypothesis 2a. Mating motivation makes men, more than women, negotiate more unethically, particularly when negotiating with other men, and not women, and particularly when the opposing male is attractive, rather than unattractive.

As with our reasoning for Hypothesis 1b, we could use our study to examine whether our theory helps explain the heterogeneity in sex differences in unethical behavior. This will require an examination of the effect of participant sex as a function of the remaining Study 2 variables (mating motivation, opponent sex, and opponent attractiveness). The four-way interaction among the Study 2 variables implied by our theory predicts that the three-way interaction among participant sex, opponent sex, and opponent attractiveness is significant when mating motivation is activated, such that men engage in more unethical behavior than women, but only when the opponent is of the same sex, and particularly when the opponent is attractive. In contrast, when mating motivation is not activated, the three-way interaction among participant sex, opponent sex, and opponent attractiveness should be weakened, such that men are less likely to engage in more unethical behavior than women regardless of the sex or attractiveness of the opponent. This pattern of findings would illustrate conditions under which sex differences in unethical behavior are stronger versus weaker, thus helping explain the heterogeneity in sex differences in unethical behavior. We hypothesize:

Hypothesis 2b. Men negotiate more unethically than women, but primarily when mating motivation is high, when the opponent is of the same sex, and particularly when the opponent is attractive.

Participants and Design

We recruited 317 participants from a subject pool maintained by the same business school behavioral laboratory through which Study 1 data collection was executed. There were no overlapping subjects in the two studies. Study 2 participants were offered £10, ostensibly to participate in two studies, one on facial recognition and one on negotiation. In reality, the study on facial recognition served as a cover story for our mating motivation manipulation, described below.

Because we again sought to examine unethical negotiation behavior among both men and women, we recruited roughly the same number of participants of each sex (50.2% men, 49.8% women) using the approach described in Study 1. The average age of participants was 28.12 years (SD = 8.44), 81.4% had prior work experience, and 52.1% indicated having experience negotiating at work. Participants of each sex were randomly assigned to conditions of a 2 (opponent sex: same vs. opposite) × 2 (mating motivation: activated vs. not activated) × 2 (opponent attractiveness: attractive vs. unattractive) between-subjects design.

Procedure and Materials

Sign-up questionnaire. Interested participants were asked to complete a short sign-up questionnaire. Participants reported their sex, age, negotiation experience, and educational attainment. Participants were also asked to upload a head-and-shoulders picture. They were told that the reason we asked for this information and their picture was so that we could assemble profiles of participants who would be negotiating among each other in the lab experiment a week later. This sign-up questionnaire thus served as a cover story for the pictures of the negotiation opponents that would be shown to participants in the lab study.

The experiment. About a week after signing up for the study, participants came to the lab individually. The lab where the study was conducted was running several studies simultaneously so participants could see other people in the waiting room and around the lab, which helped to minimize the suspicion about the existence of negotiation opponents, who were not real. Participants were escorted to individual rooms and seated in front of a computer, which we used to present all materials.

Participants were told they would take part in two unrelated studies. The first study ostensibly focused on facial recognition and consisted of memorizing faces of 10 people and attempting to identify their faces among other faces after a time delay. This served as a cover story for our mating motivation manipulation. The second study was on negotiation, and contained the main negotiation task within which opponent sex and attractiveness were

manipulated. Participants were told that they would engage in the negotiation right after memorizing people's faces and before the facial recognition task because some time had to elapse to allow for memory decay.

Mating motivation manipulation. Following prior research (Baker & Maner, 2008; Chang, Lu, Li, & Li, 2011; Roney, 2003; Wilson & Daly, 2004), mating motivation was manipulated by asking participants to carefully view and memorize 10 pictures displaying faces of either attractive or unattractive people. The pictures we used were developed in prior research (Baker & Maner, 2008), and these researchers selected them so that attractiveness ratings (1 = "very unattractive," 9 = "very attractive") were identical for male and female pictures (attractive mean = 7.98; unattractive mean = 2.49). The logic behind this manipulation is that because physical appearance is a strong predictor of attraction (Buss, 2008; Ford & Beach, 1951; Sugiyama, 2005), asking participants to view pictures of attractive individuals should stimulate their sexual and romantic interest, compared to viewing pictures of unattractive individuals (Baker & Maner, 2008; Chang et al., 2011; Roney, 2003; Wilson & Daly, 2004).

Right after participants viewed the pictures, they were asked to report their mood using the PANAS (Watson et al., 1988), ostensibly to examine for mood effects on memory. The PANAS asked participants to indicate their mood in the present moment using 10 adjectives for positive affect (e.g., "active," "inspired;" $\alpha = .92$) and 10 for negative affect ("afraid," "guilty;" $\alpha = .93$) using 5-point scales ranging from 1 = "definitely do not feel" to 5 = "extremely."

We embedded two additional items among the PANAS items to unobtrusively check the effectiveness of our mating motivation manipulation. Following prior research (Maner et al., 2005), the two adjectives were "sexual arousal" and "romantic arousal," and they were measured using the same scales as the PANAS items. Therefore, the PANAS was intended to provide a cover for the manipulation checks and minimize the chances of suspicion about the purpose of the study. We also intended to analyze the PANAS scores to demonstrate that any effect of our manipulation can be attributed to differences in the activation of participants' mating motivation specifically, rather than the potentially related psychological states of positive or negative affect. The two manipulation check items were highly correlated ($r = .80$, $p < .001$), so we averaged them into a single measure intended to check the effectiveness of our mating motivation manipulation.

Negotiation. Next, participants were told they and another participant would be assigned to represent different parties in a seller–buyer negotiation. They were told that on the following page, they would see which role they were assigned to, as well as the profile of the participant representing the other role. Participants were told that the other participant would be able to see their profile in an equivalent format based on the information they submitted in the sign-up questionnaire.

Next, all participants read that they were randomly assigned to the buyer role. At that point they reviewed the profile of the participant they would ostensibly be negotiating with. The profile contained the picture of the other participant, which constituted our manipulations of opponent sex and attractiveness, described below. The opponent was always assigned to the role of the seller. In all conditions, the opponent's profile indicated the gender-neutral name "Morgan Tomlinson." We indicated 21 as the opponent's age, "Undergraduate, King's College London" as educational attainment, and no work or negotiation experience. The information about the opponent's background was identical across conditions.

Opponent sex and attractiveness manipulation. The materials for our manipulation of opponent attractiveness were taken from prior work on facial attractiveness, where they have been widely used (Braun, Gruendl, Marberger, & Scherber, 2001; Van Leeuwen, Veling, Van Baaren, & Dijksterhuis, 2009). Specifically, we used four images that were computer-generated to manipulate attractiveness while keeping numerous image features constant, including hair, skin, background, and contrast (for details, see Braun et al., 2001). As part of the profile of the negotiation opponent, participants saw a picture of either a male or a female, which constituted our opponent sex manipulation, and the person shown was either attractive or unattractive, which constituted our opponent attractiveness manipulation.

Unethical negotiation measure. After reviewing the profile of the opponent, participants were provided with the details of the negotiation case, based on the Bullard Houses case (Karp, Gold, & Tan, 1998), widely used in prior research on unethical negotiation behavior (e.g., Haselhuhn & Wong, 2011; Jap, Robertson, & Hamilton, 2011; Kern & Chugh, 2009; Lee & Thompson, 2011). Participants were told they would negotiate on behalf of a hotel group wishing to purchase a historic property from its owner. The owner was said to strongly disfavor a commercial use of the property. However, this is exactly what the hotel group had in mind. Therefore, the case creates the

incentive for the negotiator to lie about the intended use of the property. Participants were told that the other participant, negotiating on behalf of the seller, was first interested in learning what the intended use of the property was, and would later consider an offer. Participants were reminded that they were not obligated to be truthful about the intended use but that they were not obligated to lie either. All participants then wrote a message communicating the purported planned use of the property.

Consistent with prior research (Haselhuhn & Wong, 2011; Jap et al., 2011; Kern & Chugh, 2009; Lee & Thompson, 2011), two coders, blind to conditions, coded participants' responses for "whether the buyer explicitly deceived the seller" (Haselhuhn & Wong, 2011). Deception was defined as intentional acts of deceit that benefit the buyer (Mitchell, 1986; Schweitzer et al., 2006). A total of 136 of the responses (44.6%) were coded as deception and 169 (53.3%) as truthful communication. In addition, 12 cases were coded as non-responses, most reflecting a misunderstanding of the case or incompletely written messages, and so were not classified as either truth or lie. Differences in coding were few and were resolved through discussion. After communicating the intended use of the property, participants were told the study was over, thoroughly debriefed, and paid.

STUDY 2: RESULTS

Manipulation Checks

The manipulation check for the mating motivation manipulation revealed an interaction between the mating motivation manipulation and sex, $F_{1,313} = 5.94$, $p = 0.015$. Simple effects analysis showed that the manipulation had the intended effect for both men ($p < .001$) and women ($p = .009$), such that participants reported a higher level of sexual/romantic arousal when mating motivation was activated (men: mean = 2.43, $SD = 1.02$; women: mean = 1.77, $SD = 0.82$) than when it was not (men: mean = 1.63, $SD = 0.78$; women: mean = 1.42, $SD = 0.61$). Thus, while the manipulation affected men somewhat more strongly than women, it produced the intended effect in both sexes. The manipulation did not influence participants' affect (positive affect: $t_{315} = 0.61$, $p = .542$; negative affect: $t_{315} = 0.74$, $p = .462$).

Hypothesis 2a Test: Effects of Mating Motivation

We entered participant sex (0 = women; 1 = men), mating motive condition (0 = not activated; 1 = activated), opponent sex (0 = opposite-sex; 1 = same-sex), and opponent attractiveness (0 = unattractive; 1 = attractive) and all higher-order interactions in a logistic regression model predicting participants' negotiation decisions (0 = ethical; 1 = unethical).[1]

The analysis results are displayed in Table 3, and Figure 2 shows percentages of unethical negotiation behavior by condition. The predicted four-way interaction was significant, $b = 5.23$, $p = .007$. To interpret the four-way interaction, we first investigated the effect of mating motivation among men versus women by unpacking the simple three-way interaction between mating motivation, opponent sex, and opponent attractiveness for male and female participants separately. The upper portion of Table 4 contains numerical percentages of deception behavior by condition, simple effects of mating motivation, and all relevant simple three- and two-way interactions.

Male participants. For male participants, the three-way interaction between mating motivation, opponent sex, and opponent attractiveness was significant, $b = 3.29$, $p = .021$. When male participants negotiated with a female opponent, the effect of the mating motivation manipulation did not vary as a function of opponent attractiveness (simple mating motivation × opponent attractiveness interaction: $b = -0.14$, $p = .532$); mating motivation had no effect on participants' unethical negotiation behavior regardless of the attractiveness of the opponent (see Table 4 for details of simple effects of mating motivation within each condition).

However, when male participants negotiated with a male opponent, the effect of the mating motivation manipulation significantly varied as a function of opponent attractiveness (simple mating motivation × opponent attractiveness interaction: $b = 0.61$, $p = .005$), such that mating motivation had no effect on participants' unethical negotiation behavior when the opponent was unattractive, $b = -0.24$, $p = .157$. However, when the opponent was attractive, mating motivation made male participants negotiate more unethically with their male opponents, $b = 0.37$, $p = .006$.

[1] We did not include controls in our analyses for Study 2 as we did in Study 1. In Study 1, we needed to control for other potential effects on unethical behavior as all of the variables were measured. In Study 2, we randomly assigned participants to conditions, and therefore differences in unethical behavior between conditions could only be due to condition. We thank the reviewer who prompted this clarification.

TABLE 3
Study 2: Results from Logistic Regression Analysis of Unethical Negotiation Behavior[a]

Variables[b]	*b*	*SE*	*z*	*p*>z	LLCI	ULCI
Constant	−0.15	0.39	−0.39	0.695	−0.93	0.62
Participant sex (A)	−0.32	0.69	−0.46	0.648	−1.67	1.04
Mating motivation (B)	−0.54	0.64	−0.85	0.397	−1.79	0.71
Opponent sex (C)	−0.21	0.59	−0.36	0.715	−1.36	0.93
Opponent attractiveness (D)	0.15	0.66	0.23	0.816	−1.15	1.45
A × B	0.72	0.96	0.75	0.453	−1.16	2.61
A × C	0.68	0.98	0.70	0.484	−1.23	2.60
A × D	1.11	0.89	1.24	0.214	−0.64	2.85
B × C	−0.30	0.99	−0.31	0.760	−2.25	1.64
B × D	0.41	0.98	0.41	0.679	−1.51	2.32
C × D	−2.32	1.37	−1.70	0.090	−5.00	0.36
A × B × C	−1.07	1.43	−0.75	0.454	−3.86	1.73
A × B × D	0.58	0.90	0.64	0.520	−1.19	2.35
A × C × D	−0.87	1.35	−0.65	0.518	−3.53	1.78
B × C × D	−1.95	1.34	−1.45	0.146	−4.57	0.68
A × B × C × D	5.23	1.96	2.68	0.007	1.40	9.07

[a] $N = 305$. Dependent variable was negotiation responses, coded 1 for unethical and 0 for ethical behavior. LLCI = 95% confidence interval lower limit; ULCI = 95% confidence interval upper limit.

[b] Participant sex was coded 1 for men and 0 for women; mating motivation was coded 1 for the mating motivation activated condition and 0 for the mating motivation not activated condition; opponent sex was coded 1 for same-sex opponents and 0 for opposite-sex opponents; opponent attractiveness was coded 1 for attractive opponents and 0 for unattractive opponents.

Female participants. In contrast, for female participants, the three-way interaction between mating motivation, opponent sex, and opponent attractiveness was not significant, $b = -1.95$, $p = .146$.

When female participants negotiated with a male opponent, the effect of the mating motivation manipulation did not vary as a function of the opponent attractiveness (simple mating motivation × opponent

FIGURE 2
Study 2: Percentage of Participants Who Negotiated Unethically Per Condition

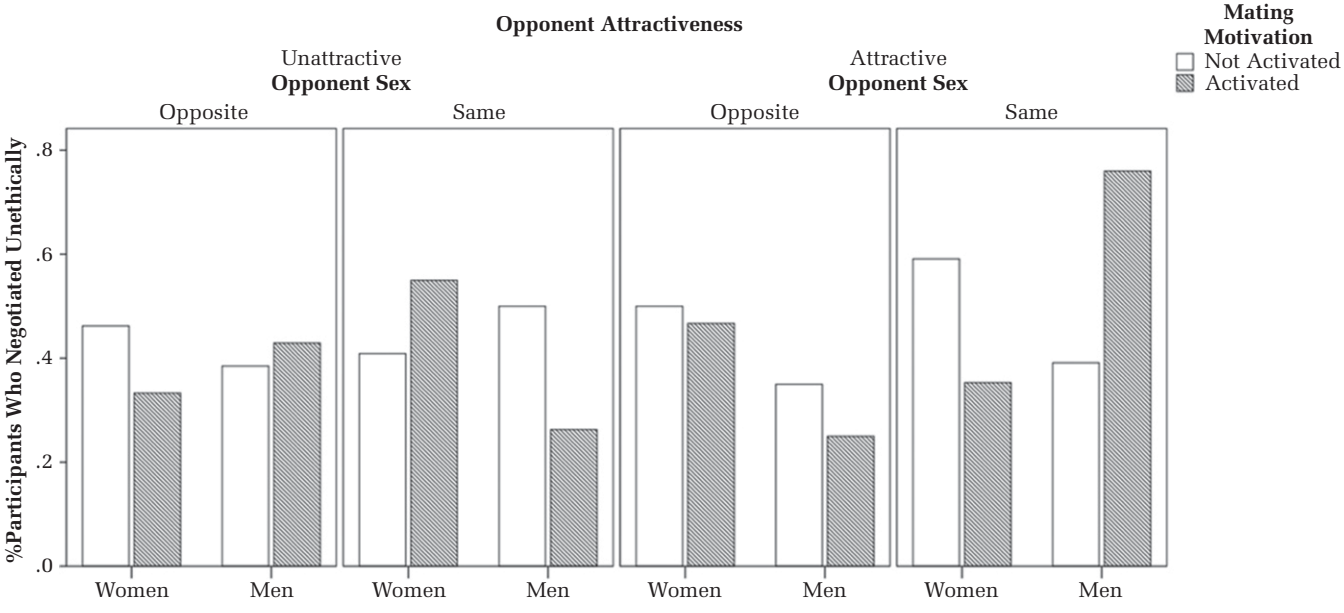


TABLE 4
Study 2: Unethical Negotiation Behavior Percentages by Condition, Simple Effects of the Mating Motivation Manipulation (Above) and Participant Gender (Below), and All Simple Two and Three-Way Interactions[a]

Experimental Conditions			% of Participants who Negotiated Unethically		Simple Effects	Simple Two-Way Interactions	Simple Three-Way Interactions
Participant sex	**Opponent sex**	**Opponent attractiveness**	**Mating motivation not activated**	**Mating motivation activated**	**Simple effect of mating motivation**	**Mating motivation × opponent attractiveness**	**Mating motivation × opponent attractiveness × opponent sex**
Male	Opposite	Unattractive	38.5%	42.9%	$b = 0.04$, $p = .799$	$b = -0.14$, $p = .532$	**$b = 3.29$, $p = .021$**
		Attractive	35.0%	25.0%	$b = -0.10$, $p = .511$		
	Same	Unattractive	50.0%	26.3%	$b = -0.24$, $p = .157$	**$b = 0.61$, $p = .005$**	
		Attractive	**39.1%**	**76.0%**	**$b = 0.37$, $p = .006$**		
Female	Opposite	Unattractive	46.2%	33.3%	$b = -0.13$, $p = .386$	$b = 0.09$, $p = .689$	$b = -1.95$, $p = .146$
		Attractive	50.0%	46.7%	$b = -0.03$, $p = .857$		
	Same	Unattractive	40.9%	55.0%	$b = 0.14$, $p = .357$	$b = -0.38$, $p = .083$	
		Attractive	59.1%	35.3%	$b = -0.24$, $p = .128$		
Mating motivation	**Opponent Sex**	**Opponent attractiveness**	**Women**	**Men**	**Simple effect of participant sex**	**Participant sex × opponent attractiveness**	**Participant sex × opponent attractiveness × opponent sex**
Activated	Opposite	Unattractive	33.3%	42.9%	$b = 0.10$, $p = .539$	$b = -0.31$, $p = .173$	**$b = 4.36$, $p = .002$**
		Attractive	46.7%	25.0%	$b = -0.23$, $p = .198$		
	Same	Unattractive	55.0%	26.3%	$b = -0.29$, $p = .056$	**$b = 0.69$, $p = .001$**	
		Attractive	**35.3%**	**76.0%**	**$b = 0.41$, $p = .005$**		
Not activated	Opposite	Unattractive	46.2%	38.5%	$b = -0.08$, $p = .644$	$b = -0.07$, $p = .760$	$b = -0.87$, $p = .518$
		Attractive	50.0%	35.0%	$b = -0.15$, $p = .380$		
	Same	Unattractive	40.9%	50.0%	$b = 0.09$, $p = .592$	$b = -0.29$, $p = .195$	
		Attractive	59.1%	39.1%	$b = -0.20$, $p = .172$		

[a] Variables were coded the same as described in Table 3.

attractiveness interaction: $b = -0.38$, $p = .083$), such that it had no effect on participants' propensity to negotiate unethically regardless of the attractiveness of the opponent. Because the interaction was close to marginal significance, we examined the simple effects which did not reveal any meaningful effects ($ps \geq .13$) and therefore do not make further conclusions regarding this statistic.

In addition, when female participants negotiated with a female opponent, the effect of the mating motivation manipulation did not vary as a function of opponent attractiveness (simple mating motivation × opponent attractiveness interaction: $b = 0.09$, $p = .689$), such that it had no effect on participants' propensity to negotiate unethically regardless of the attractiveness of the opponent.

Thus, the mating motivation manipulation made men, but not women, negotiate more unethically, but only when negotiating with other men, and this effect was stronger when the male opponent was attractive than when the male opponent was unattractive (in which case the effect was not significant). The results are consistent with Hypothesis 2a, supporting the reasoning that the greater level of unethical behavior in men, but not in women, is in part a consequence of evolved tendencies for intrasexual competition for mates.

Hypothesis 2b Test: Sex Differences

Next, we examined whether and when men negotiate more unethically than women. If the effect of mating motivation documented above is one explanation for why men in some (but not all) cases negotiate more unethically than women, then there should be a significant sex difference in unethical negotiation behavior, such that men negotiate more unethically, but only when mating motivation is activated, when the opponent is of the same sex, and when the opponent is attractive. The lower portion of Table 4 contains percentages of unethical negotiation behavior by condition, simple effects of participant sex, and all relevant simple three- and two-way interactions.

Mating motivation activated. When mating motivation was activated, the three-way interaction between participant sex, opponent sex, and opponent attractiveness was significant, $b = 3.09$, $p = .002$. When participants negotiated with an opponent of the opposite sex, the effect of participant sex did not vary as a function of the opponent attractiveness (simple participant sex × opponent attractiveness interaction: $b = -0.31$, $p = .173$), such that there was no sex difference in unethical behavior regardless of the attractiveness of the opponent (see Table 4 for details of simple effects of participant sex within each condition).

However, when participants negotiated with a same-sex opponent, the effect of participant sex significantly varied as a function of the opponent attractiveness (simple participant sex × opponent attractiveness interaction: $b = 0.69$, $p = .001$), such that it had no effect on participants' propensity to negotiate unethically when the opponent was unattractive, $b = -0.29$, $p = .056$, but when the opponent was attractive, men were more likely to negotiate unethically than women, $b = 0.41$, $p = .005$.

Mating motivation not activated. In contrast, when mating motivation was not activated, the three-way interaction between participant sex, opponent sex, and opponent attractiveness was not significant, $b = -0.87$, $p = .518$. When participants negotiated with an opponent of the opposite sex, the effect of participant sex did not vary as a function of the opponent attractiveness (simple participant sex × opponent attractiveness interaction: $b = -0.07$, $p = .760$), such that it had no effect on participants' propensity to negotiate unethically regardless of the attractiveness of the opponent.

In addition, when participants negotiated with a same-sex opponent, the effect of participant sex also did not significantly vary as a function of the opponent attractiveness (simple participant sex × opponent attractiveness interaction: $b = -0.29$, $p = .195$), such that it also had no effect on participants' propensity to negotiate unethically regardless of the attractiveness of the opponent.

Thus, men negotiated more unethically than women, but only when their mating motivation was activated and when they negotiated with a same-sex opponent, and this effect was stronger when the same-sex opponent was attractive than when the opponent was unattractive (in which case the effect was not significant). These results support Hypothesis 2b and demonstrate that the level of mating motivation may explain when and why men negotiate more unethically than women.

STUDY 3: EXPERIMENT

Study 1 and Study 2 together establish that the differential effect of mating motivation in men versus women explains men's greater propensity to engage in unethical behavior. In Study 3, we sought to investigate in more detail implications of our theory for

the effects of mating motivation on unethical negotiation behavior in men as well as women. The results of Study 2 suggest that women also are affected by mating motivation (demonstrated by the effectiveness of the manipulation), however both Study 1 and 2 show that mating motivation did not affect women's unethical negotiation behavior. Kennedy and Kray (2015) note that many conclusions about sex differences in negotiation might be due to the kinds of behaviors investigated, rather than differences in ability or motivation between the sexes: men and women might opt for different behaviors to accomplish the same goal. Drawing on our overarching framework of parental investment theory, in Study 3, we examined whether mating motivation might also prompt unethical behavior among women when unethical behavior constituted less of a severe violation of the norms of socially appropriate behavior.

Unethical behaviors vary in degree of social acceptability (Jones, 1991), where some unethical behaviors (e.g., telling outright lies) constitute more severe violations of the norms of socially acceptable behavior than others (e.g., deflecting a question). As noted in our theory, to the extent that people engaged in behavior that violated the norms of socially acceptable behavior, they faced potential fitness costs due to social sanctions (Fehr & Gächter, 2002). The more severe the violation of the norms of socially acceptable conduct, the more negatively people react to the unethical act (Jones, 1991). Evolutionarily, such costs were lower for men because women had a more important role in the taking care of offspring and thus any social repercussions that might arise from unethical behavior used to outperform intrasexual competitors was more costly in terms of the ability of a gene pool to be passed down to subsequent generations (Campbell, 1999; Griskevicius et al., 2009).

This logic implies that the more severe the violation of the norms of socially acceptable behavior (which are associated with increasing social costs, which should be a stronger deterrent to women), the more pronounced should be the sex difference in norm violations. This logic informs an interesting boundary condition for the effect of mating motivation on unethical behavior: Mating motivation might more strongly prompt men to engage in unethical behavior which constitutes more severe violations of the norms of socially appropriate behavior. However, for unethical behaviors that constitute less severe violations of the norms of socially appropriate behavior (and which are thus associated with lower costs of negative third-party reactions), the sex difference might be less pronounced. Put differently, mating motivation might prompt unethical behavior among both men and women—attenuating the sex difference in unethical behavior—when the behavior constitutes a less severe violation of the norms of socially appropriate behavior. This reasoning is supported by aggression research, which suggests that compared to men, women engage in less direct aggression (e.g., physically assaulting someone) but not in less indirect aggression (e.g., rumor spreading; Archer & Coyne, 2005). This evolutionary account also bolsters socialization accounts that suggest that there are higher moral expectations for women.

We test this implication of our theory in Study 3 by experimentally varying whether the negotiation situation afforded the opportunity for unethical behavior that constituted a more versus less severe violation of the norms of socially acceptable behavior. In so doing, we extend the applicability of our theory to women and test another meaningful boundary condition that explains heterogeneity in sex differences in unethical behavior. Because we found no meaningful cross-sex effects in Study 2, in Study 3 we simplified the design by looking at same-sex dyads only. Thus, in the context of this design, our hypotheses are:

Hypothesis 3a. When unethical negotiation behavior constitutes a more (compared to less) severe transgression of the norms of socially acceptable behavior, the sex difference in the effect of mating motivation on unethical behavior (particularly with an attractive opponent) is pronounced (attenuated).

Hypothesis 3b. When unethical negotiation behavior constitutes a more (compared to less) severe transgression of the norms of socially acceptable behavior, the sex difference in unethical negotiation (when mating motivation is high and when the opponent is attractive) is pronounced (attenuated).

Study 3 was also designed to further test the robustness of our findings. One of the concerns with our findings in Study 2 was that while the manipulation was successful in producing the predicted difference in mating motivation, the means in the manipulation check were below the midpoint of the scale. Therefore, in Study 3 we changed the manipulation paradigm to strengthen the manipulated mating motivation. Finally, we explored additional potential boundary conditions of our effect: marital status and sexual orientation. Regarding marital status, mating motivation may decrease when

individuals are already in a committed relationship. While the literature suggests that this may not necessarily be the case (Simpson & Gangestad, 1991), we measured marital status to explore this possibility. With regards to sexual orientation, because our mating motivation manipulation was based on heterosexual preferences (i.e., men for women, and women for men), we measured sexual orientation to test whether it moderates the effects. Finally, we also measured participants' status striving and envy to examine whether these states play a role in the phenomenon we examine because both might be associated with mating dynamics as well as competitive behavior.

Participants and Design

We recruited 375 participants from a subject pool maintained by a behavioral lab of a different business school from Study 1 and 2. Participants were offered 10€ to participate in the session, ostensibly to participate in two studies, one on rating print advertisements and one on negotiation. The study on print advertisements served as a cover story for our mating motivation manipulation, described below.

Again, we recruited roughly the same number of participants of each sex (49.6% men, 50.4% women). The average age of the participants was 22.31 years (SD = 2.83), 85.3% had prior work experience, and 22.1% indicated having experience with negotiating. Participants of each sex were randomly assigned to conditions of a 2 (mating motivation: activated vs. not activated) × 2 (opponent attractiveness: attractive vs. unattractive) × 2 (unethical negotiation behavior: deceive vs. dodge) between-subjects design. The last factor manipulated whether the negotiation situation afforded the opportunity to engage in an unethical behavior that constituted a more (outright deception) versus less (dodging the question) severe violation of the norms of socially acceptable behavior.

Procedure and Materials

The sign-up questionnaire. As in Study 2, participants were asked to fill in a sign-up questionnaire prior to coming into the lab for the main study. The cover story was the same as Study 2, where participants were told that these pictures would be used to assemble profiles of participants who would be negotiating among each other in the lab experiment. In the sign-up questionnaire, participants were asked demographics questions (e.g., sex, age, negotiation experience, educational attainment) and were also asked to upload a head-and-shoulders picture. Participants were also asked to report their relationship status (63.8% single, 34.6% in a relationship, 1.6% other). We examined the open-ended responses to the "other" responses and found they all referred to some sort of partnership. Therefore, we combined this category with the relationship category to create a binary (0 = single; 1 = has a partner). Finally, participants were also asked to report their sexuality (7-point scale, 1 = "exclusively heterosexual" to 7 = "exclusively homosexual").

The experiment. The lab experiment for Study 3 followed a similar procedure as that of Study 2. Participants were told that they would take part in two unrelated studies. The first study contained the mating motivation manipulation, and the second study contained the main negotiation task within which opponent sex and attractiveness were manipulated. Below we elaborate on the changes made to Study 3.

Mating motivation manipulation. We adopted a manipulation procedure from Van den Bergh, Dewitte, and Warlop (2008) to manipulate mating motivation. Participants were asked to carefully view and rate 15 print advertisements on how attractive they found each of the advertisements on a 5-point scale (1 = "not at all attractive," 5 = "very attractive"). The pictures used were actual print advertisements displaying either images of nature (control condition) or images of opposite-sex underwear models (i.e., men saw female models, women saw male models).

The same manipulation check from Study 2 was used where participants were asked to report their mood using the PANAS with the two additional embedded items ("sexual arousal" and "romantic arousal") measured on the 5-point scale.

Negotiation. As in Study 2, participants were told they and another participant would be assigned to represent different parties in a seller–buyer negotiation. They were shown a profile of the participant representing the other role and told that the other participant would be able to see their profile in an equivalent format using the information they submitted in the sign-up questionnaire. All participants were assigned to the buyer role and reviewed the profile of the participant they would ostensibly be negotiating with, which contained the same profiles and pictures used in Study 2.

Unethical negotiation measure. Participants were provided with the details of the negotiation case, again based on the Bullard Houses case (Karp et al., 1998). As described in detail in Study 2, the case

creates an incentive for the negotiator to lie about the intended use of the property. Participants were told that the other participant was first interested in learning what the intended use of the property was. Instead of having participants write their own messages like in Study 2, all participants were told that in the interest of time, they would be provided with options for the first message they would send to the opponent to get the conversation moving.

For participants in the *deception condition*, the two options that were provided included one truthful message ("The client I represent is not looking to maintain the original use of the Bullard Houses property as luxury residences. However, I'm sure we will be able to discuss the matter and come to an agreement") and one deceptive message ("The client I represent is very interested in developing the Bullard Houses property into luxury residences in accordance with your wishes. I'm sure we will be able to discuss the matter and come to an agreement"). For participants in the *dodging condition*, the two options that were provided included the same truthful message as above and one dodging message ("The client I represent is very interested in the Bullard Houses property and is willing to make a very attractive offer. I'm sure we will be able to discuss the matter and come to an agreement").

To examine whether third-party observers would construe dodging versus deception as differing in how severe of a violation of the norms of socially acceptable behavior the two behaviors were, an independent sample of online participants (N = 88) rated descriptions of deception and dodging from our study (1 = "not at all severe," 5 = "very severe"). As intended, deception (mean = 4.01, SD = 0.94) was seen as a more severe violation of the norms of socially acceptable behavior than dodging the question (mean = 2.86, SD = 1.01), $t_{87} = 11.75$, $p < .001$.

Additional measures. As mentioned above, we included additional measures in Study 3 to test the robustness of our findings.

Participants were asked to report their marital status (i.e., single, in a relationship, married without children, married with children). For heterosexual preference, we used the Kinsey Scale (Kinsey, Pomeroy, & Martin, 1948), where participants indicated on a 7-point scale (1 = "exclusively heterosexual," 4 = "bisexual," 7 = "exclusively homosexual").

To measure envy, we used the 9-item episodic envy scale (Cohen-Charash, 2009; Cohen-Charash & Mueller, 2007). Sample items are: "I want what my opponent has" and "I feel some hatred toward my opponent;" $\alpha = .82$.

Finally, we measured status striving by adapting the five items in the attention and direction measure of status striving in the Motivational Orientation Inventory (Barrick, Stewart, & Piotrowski, 2002). Sample items are: "I focus my attention on being the best" and "I set personal goals for doing better than others;" $\alpha = .72$.

STUDY 3: RESULTS

Manipulation Checks

The mating motivation manipulation had the intended effect, $t_{373} = 15.25$, $p < .001$, such that participants reported a higher level of sexual/romantic arousal when mating motivation was activated (mean = 3.19, SD = 1.16) than when it was not (mean = 1.60, SD = 0.82). We checked to see whether men and women differed in the extent to which the manipulation affected their mating motivation and did not find a significant main effect of gender, $F_{1,371} = 0.13$, $p = .721$, nor a significant gender by mating motivation interaction, $F_{1,371} = 0.01$, $p = .909$. Therefore, the manipulation was effective for both men and women and the strength of the effect was comparable. Again, we checked positive and negative affect to make sure the manipulation did not influence participants' affect. The results confirmed that the manipulation did not affect more general affective states (positive affect: $t_{373} = 1.18$, $p = .238$; negative affect: $t_{373} = 0.30$, $p = .767$). Finally, neither status striving ($p = .793$) nor envy ($p = .451$) were affected by the mating motivation manipulation.

Hypothesis 3a Test: Effects of Mating Motivation on Deception

Because the two different dependent measures, deception and dodging, were between-subjects, we cannot analyze them simultaneously. Therefore, we examine the two dependent measures, deception and dodging, separately. We first examine unethical behavior by looking at how mating motivation affects more severe unethical negotiation tactics (*deception condition*), or choosing between the truthful message and the deceptive message. We entered participant sex (0 = women; 1 = men), mating motive condition (0 = not activated; 1 = activated), and opponent attractiveness (0 = unattractive; 1 = attractive) and all higher-order interactions in a logistic regression model predicting participants' negotiation decisions (0 = ethical; 1 = unethical).

The analysis results are displayed in Table 5, and Figure 3 shows percentages of unethical negotiation behavior by condition. The predicted three-way

TABLE 5
Study 3: Results from Logistic Regression Analysis of Deception Behavior[a]

Variables[b]	*b*	*SE*	*z*	*p*>z	LLCI	ULCI
Constant	−0.09	0.42	−0.21	0.835	−0.91	0.73
Participant sex (A)	0.25	0.58	0.43	0.664	−0.89	1.40
Mating motivation (B)	<0.00	0.59	<0.00	1.000	−1.16	0.16
Opponent attractiveness (C)	0.66	0.59	1.12	0.261	−0.49	1.82
A × B	0.02	0.84	0.02	0.985	−1.62	1.65
A × C	−1.00	0.83	−1.21	0.228	−2.62	0.62
B × C	−0.74	0.83	−0.89	0.371	−2.37	0.89
A × B × C	2.84	1.26	2.25	0.024	0.37	5.31

[a] $N = 189$. Dependent variable was negotiation response selection, coded 1 for deception and 0 for ethical (truthful) message selection. LLCI = 95% confidence interval lower limit; ULCI = 95% confidence interval upper limit.

[b] Participant sex was coded 1 for men and 0 for women; mating motivation was coded 1 for the mating motivation activated condition and 0 for the mating motivation not activated condition; opponent attractiveness was coded 1 for attractive opponents and 0 for unattractive opponents.

interaction was significant, $b = 2.84$, $p = .024$. To interpret the three-way interaction, we first investigated the effect of mating motivation among men versus women by unpacking the simple two-way interaction between mating motivation and opponent attractiveness for male and female participants separately. Table 6 contains numerical percentages of deception behavior by condition, simple effects of mating motivation, and simple two-way interactions.

Male participants. For male participants, the interaction between mating motivation and opponent attractiveness was significant, $b = 0.41$, $p = .031$. The effect of the mating motivation manipulation significantly varied as a function of the same-sex opponent's attractiveness such that the mating motivation manipulation had no effect on male participants' unethical negotiation behavior when the opponent was unattractive, $b = 0.003$, $p = .979$, but prompted more unethical behavior when the opponent was attractive, $b = 0.42$, $p = .001$.

Female participants. The interaction between mating motivation and opponent attractiveness was not significant for women, $b = -0.18$, $p = .371$.

These results replicated our prior findings, showing that while mating motivation prompts unethical behavior in men, women's unethical negotiation behavior is not affected.

Hypothesis 3a Test: Effects of Mating Motivation on Dodging

We examine how mating motivation affects less severe unethical negotiation tactics by looking at participants who were in the *dodging condition* who chose between the truthful message and the dodging message. The same model was used as above. The analysis results are displayed in Table 7, and Figure 2 shows percentages of unethical negotiation behavior by condition. Consistent with predictions, unlike with respect to deception, the three-way interaction was not significant with respect to dodging, $b = 0.33$, $p = .842$. Table 8 contains numerical percentages of dodging behavior by condition, simple effects of mating motivation, and simple two-way interactions.

Male participants. For male participants, the effect of the mating motivation manipulation significantly varied as a function of opponent attractiveness such that it had no effect on male participants' unethical negotiation behavior when the opponent was unattractive, $b = -0.05$, $p = .730$, but had a significant effect when the opponent was attractive, $b = 0.33$, $p = .002$.

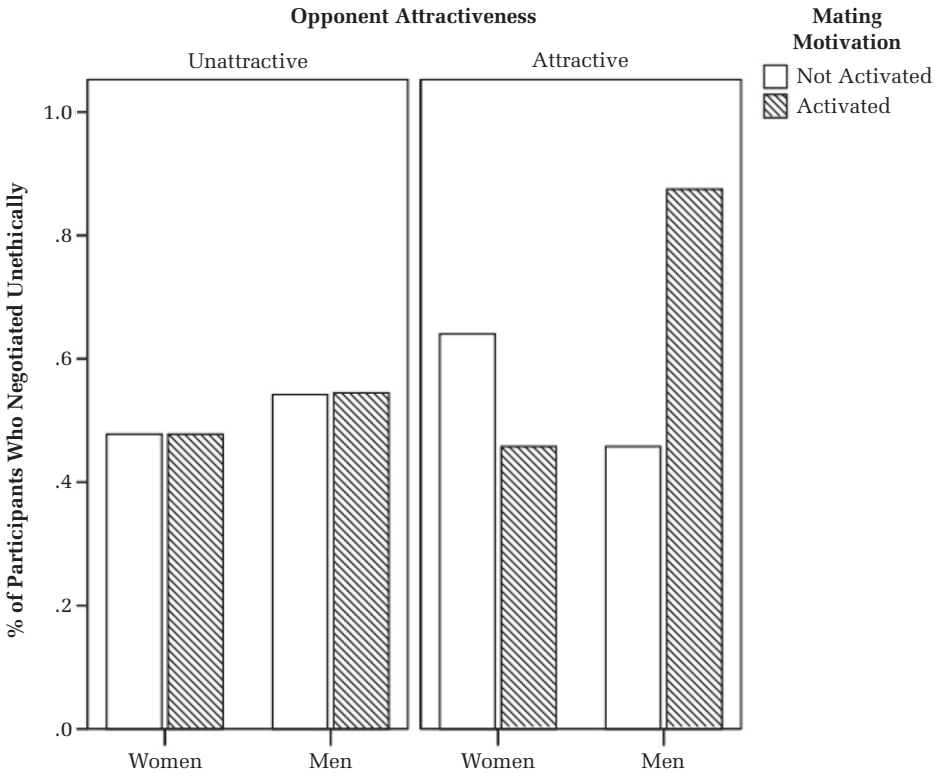
Female participants. Similar to men, and in contrast to findings for deception behavior, women's propensity to dodge the question varied as a function of mating motivation. When the opponent was an unattractive woman, mating motivation did not affect dodging among women, $b = -0.01$, $p = .951$, but when the opponent was an attractive woman, mating motivation prompted women to dodge the question more, $b = 0.43$, $p < .001$.

These results demonstrate that when the unethical negotiation behavior is a less severe violation, women high in mating motivation show a similar pattern to men in choosing to engage in unethical negotiation behavior.

Hypothesis 3b Test: Sex Differences in Deception

Mating motivation activated. When mating motivation was activated, the two-way interaction between participant sex and opponent attractiveness

FIGURE 3
Study 3: Percentage of Participants Who Used Deception Per Condition
Study 3: Percentage of Participants Who Used Dodging Per Condition



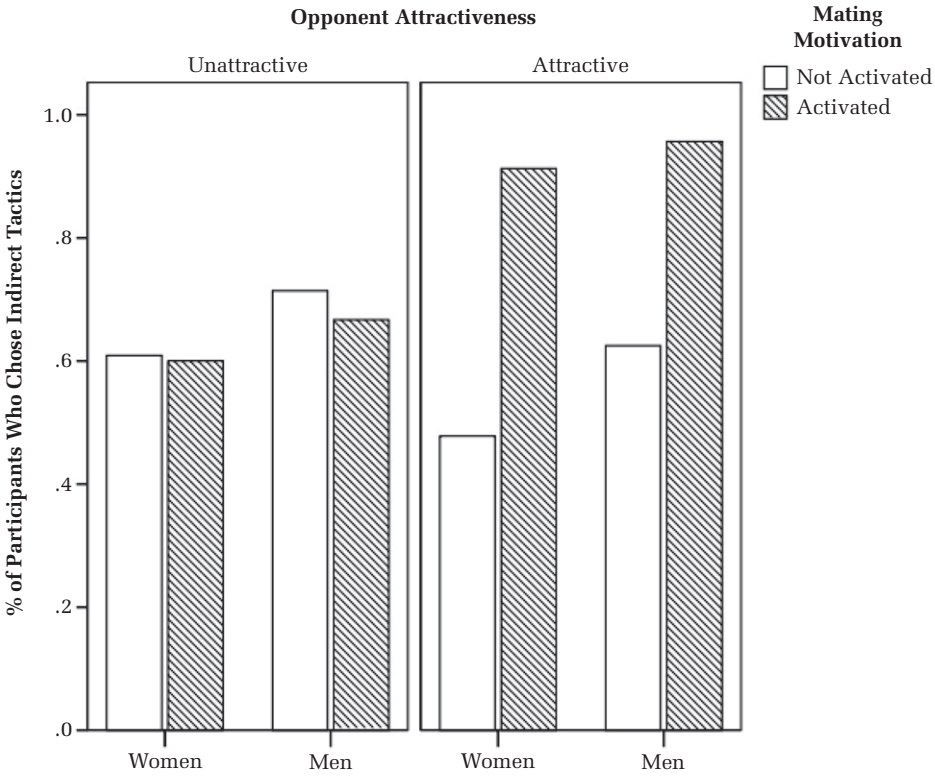


TABLE 6
Study 3: Deception Negotiation Behaviors by Condition, Simple Effects of the Mating Motivation Manipulation (Above) and Participant Gender (Below)[a]

Participant sex	Opponent attractiveness	% of Participants who Used Deception: Mating motivation not activated	% of Participants who Used Deception: Mating motivation activated	Simple Effects: Simple effect of mating motivation	Simple Two-Way Interactions: Mating motivation × opponent attractiveness
Male	Unattractive	54.2%	54.5%	$b = 0.003$, $p = .979$	**$b = 0.41$, $p = .031$**
	Attractive	**45.8%**	**87.5%**	**$b = 0.42$, $p = .001$**	
Female	Unattractive	47.8%	47.8%	$b = 0.00$, $p = 1.00$	$b = -0.18$, $p = .371$
	Attractive	64.0%	45.8%	$b = -0.18$, $p = .194$	

Mating motivation	Opponent attractiveness	% of Participants who Used Deception: Women	% of Participants who Used Deception: Men	Simple Effects: Simple effect of participant sex	Simple Two-Way Interactions: Participant sex × opponent attractiveness
Activated	Unattractive	47.8%	54.5%	$b = 0.07$, $p = .651$	**$b = 0.35$, $p = .069$**
	Attractive	**45.8%**	**87.5%**	**$b = 0.42$, $p = .001$**	
Not activated	Unattractive	47.8%	54.2%	$b = 0.06$, $p = .663$	$b = -0.25$, $p = .225$
	Attractive	64.0%	45.8%	$b = -0.18$, $p = .194$	

[a] Variables were coded the same as described in Table 3.

was marginally significant, $b = 0.35$, $p = .069$. When the opponent was unattractive, men and women did not differ in their likelihood to engage in deception, $b = 0.07$, $p = .651$. However, when the opponent was attractive, men chose to deceive significantly more than women, $b = 0.42$, $p = .001$.

Mating motivation not activated. When mating motivation was not activated, the two-way interaction between participant sex and opponent attractiveness was not significant, $b = -0.25$, $p = .225$. Men and women did not differ in choosing to deceive their opponent.

Hypothesis 3b Test: Sex Differences in Dodging

Mating motivation activated. When mating motivation was activated, the two-way interaction between participant sex and opponent attractiveness was not significant, $b = -0.02$, $p = .881$. For less severe unethical behavior, women and men did not differ in their propensity to behave unethically.

Mating motivation not activated. Similar to our findings in Study 2, men and women did not differ in their decisions to act unethically when mating motivation was not activated. The two-way interaction

TABLE 7
Study 3: Results from Logistic Regression Analysis of Dodging Behavior[a]

Variables[b]	*b*	*SE*	*z*	*p*>z	LLCI	ULCI
Constant	0.44	0.43	1.03	0.301	−0.40	1.28
Participant sex (A)	0.47	0.64	0.74	0.462	−0.79	1.74
Mating motivation (B)	−0.04	0.59	−0.06	0.951	−1.19	1.12
Opponent attractiveness (C)	−0.53	0.60	−0.89	0.376	−1.70	0.64
A × B	−0.19	0.88	−0.21	0.831	−1.91	1.53
A × C	0.12	0.88	0.14	0.888	−1.59	1.84
B × C	2.47	1.03	2.69	0.017	0.45	4.50
A × B × C	0.33	1.65	0.20	0.842	−5.90	3.56

[a] $N = 189$. Dependent variable was negotiation response selection, coded 1 for dodging and 0 for truthful message selection. LLCI = 95% confidence interval lower limit; ULCI = 95% confidence interval upper limit.

[b] Participant sex was coded 1 for men and 0 for women; mating motivation was coded 1 for the mating motivation activated condition and 0 for the mating motivation not activated condition; opponent attractiveness was coded 1 for attractive opponents and 0 for unattractive opponents.

TABLE 8
Study 3: Dodging Negotiation Behaviors by Condition, Simple Effects of the Mating Motivation Manipulation (Above) and Participant Gender (Below)[a]

Participant sex	Opponent attractiveness	% of Participants who Used Dodging: Mating motivation not activated	% of Participants who Used Dodging: Mating motivation activated	Simple Effects: Simple effect of mating motivation	Simple Two-Way Interactions: Mating motivation × opponent attractiveness
Male	Unattractive	71.4%	66.7%	$b = -0.05$, $p = .730$	**$b = 0.38$, $p = .030$**
	Attractive	**62.5%**	**95.7%**	**$b = 0.33$, $p = .002$**	
Female	Unattractive	60.9%	60.0%	$b = -0.01$, $p = .951$	**$b = 0.44$, $p = .017$**
	Attractive	**47.8%**	**91.3%**	**$b = 0.43$, $p < .001$**	

Mating motivation	Opponent attractiveness	% of Participants who Used Dodging: Women	% of Participants who Used Dodging: Men	Simple Effects: Simple effect of participant sex	Simple Two-Way Interactions: Participant sex × opponent attractiveness
Activated	Unattractive	60.0%	66.7%	$b = 0.07$, $p = .627$	$b = -0.02$, $p = .881$
	Attractive	91.3%	95.7%	$b = 0.04$, $p = .549$	
Not activated	Unattractive	60.9%	71.4%	$b = 0.11$, $p = .456$	$b = 0.04$, $p = .838$
	Attractive	47.8%	62.5%	$b = 0.15$, $p = .307$	

[a] Variables were coded the same as described in Table 3.

between participant sex and opponent attractiveness was not significant, $b = 0.04$, $p = .838$.

Thus, as hypothesized, when the unethical behavior was a less severe violation of the norms of socially acceptable behavior, women showed a similar pattern to men such that they engaged in unethical behavior when mating motivation was activated and the opponent was attractive.

The Roles of Partnership Status and Sexual Orientation

We conducted exploratory analysis to examine whether having a partner and sexual orientation moderated the effects for both outcome measures. Adding this variable and all its interactions to the models reported above revealed that the partnership status did not moderate the focal three-way interaction described above (*p*s $> .817$). While we thought it was possible that the effects would be attenuated among those with a partner, prior work also suggests that partnership status often does not alter people's mating-related behaviors (Simpson & Gangestad, 1991), and our findings are consistent with this possibility, although future research is needed to fully explore the role of relationship status in mating motivation effects on unethical behavior. We also did not find significant interactions with sexual orientation (*p*s $> .600$). However, we note that only 4% (15 participants) of the sample selected a value above the midpoint (indicating predominately homosexual orientation), so the absence of a moderating effect might be due to a relatively low power to observe the effect among participants with a homosexual orientation.

GENERAL DISCUSSION

Three studies support an evolutionary model of sex differences in unethical negotiation behavior. Using a two-wave design, Study 1 found that in employed adults who engage in negotiation as part of their work, mating motivation predicted unethical negotiation behaviors in men but not in women. Put differently, sex differences in unethical negotiation behaviors were found at high, but not at low, levels of mating motivation. Study 2 was a laboratory experiment and showed that activating mating motivation led men, but not women, to negotiate more unethically, but only when negotiating with other attractive (but not unattractive) men (but not women), who represent more formidable rivals for mates. Put differently, men negotiated more unethically, but only when their mating motivation was activated, and when they negotiated with attractive men. Study 3 was another laboratory experiment and showed that activating mating motivation led both men and women to negotiate more unethically using less severe unethical negotiation tactics when facing a more attractive same-sex opponent, suggesting that women's unethical negotiation behavior is also affected by mating motivation and intrasexual

competition, but the type of unethical tactics effected differ. Taken together, these findings provide support for our theory that the greater level of unethical behavior found among men, compared to women, is a consequence of an evolved male intrasexual competition strategy and that it is systematically pronounced and attenuated in key situations relevant for intrasexual competition and reproductive fitness (opponent attractiveness, opponent sex, severity of violation of norms of socially acceptable behaviors).

Theoretical Contribution

This research contributes to the literature on unethical work behavior in general (Kish-Gephart et al., 2010; Treviño et al., 2014) and to the unethical negotiation literature more specifically (e.g., Dreber & Johannesson, 2008; Haselhuhn & Wong, 2011; Kray & Haselhuhn, 2012; Ma, 2010; Robinson et al., 2000; Volkema, 2004; Westbrook et al., 2011). Employee sex is one of the most widely documented individual differences in this literature, but most research in this domain was atheoretical (Franke et al., 1997). The few studies suggesting explanations for sex differences focused on some form of socialization differences as an explanation. We sought to extend these accounts by integrating them with evolutionary theory. In so doing, we extend prior models by explaining not just *how* sex differences are propagated, but also *why* these specific sex differences (rather than a reverse pattern of differences, or no differences at all) would occur in the first place. The theoretical extension through the focus on evolutionary theory also allowed us to increase the predictive power of models of sex differences in unethical negotiation behavior by specifying a range of theoretically and practically meaningful boundary conditions under which the sex difference arises.

Our theory and findings that attractive male opponents can elicit unethical negotiation behaviors in mating-motivated males qualifies a large body of organizational literature, which by and large assumes that attractive people generally enjoy more favorable treatment in organizations than unattractive people (Dion, Berscheid, & Walster, 1972; Hosoda, Romero, & Coats, 2003). Hosoda et al. (2003) conducted a meta-analysis of attractiveness discrimination research and concluded that, "physical attractiveness is always an asset." Similarly, the negotiations literature suggests that attractive people elicit more positive responses in negotiation (Rosenblat, 2008; Solnick & Schweitzer, 1999). Research on selection decisions identified several conditions under which physical attractiveness may backfire (Heilman & Stopeck, 1985; Jawahar & Mattsson, 2005; Lee, Pitesa, Pillutla, & Thau, 2015b), but to the best of our knowledge our studies are the first to theorize and detect such an effect in the context of negotiation.

In making these theoretical contributions to the organizational literature, our research demonstrates the promise of evolutionary theory for organizational scholars. Organizational research, including negotiations research, has not yet made significant use of the evolutionary perspective despite its exceptional parsimony and explanatory power that led to significant advancements in other areas of social science, including a better understanding of such fundamental phenomena as conformity, altruism, and creativity (Griskevicius et al., 2006a, 2006b, 2007).

Finally, we contribute to the disciplinary (psychological) literature on sex-specific mating strategies (e.g., Baker & Maner, 2008; Griskevicius et al., 2009). This research identified several sex-specific evolved tendencies for intrasexual competition for mates, including consumption patterns, risk taking, and aggression. Our research complements this past work by identifying unethical behavior as another sex-specific behavioral intrasexual competition tendency. In addition, we contribute to this body of work by connecting it in a theoretically rigorous way with phenomena and research on physical attractiveness and social norm violation severity. These phenomena are evolutionarily crucial factors affecting selection pressures and the concomitant evolved mating tendencies and sex differences, so our work helps build a more holistic and integrative theory on these important phenomena.

Limitations and Future Research

We found support for our theory using different methodologies; however, our theory has some implications that we did not test in this paper. For example, we considered variation in the participants' own attractiveness as exogenous to our theoretical model for it to be relatively parsimonious. We randomly assigned participants to experimental conditions, so differences in participant attractiveness in our experiment could not have influenced the pattern of our results. However, unattractive males' mating opportunities are generally lower compared to attractive males' mating opportunities (Buss, 2008; Ford & Beach, 1951; Sugiyama, 2005). This disadvantage in the mating arena and the associated need to strive harder to attain valued outcomes might

make unattractive males compete more aggressively, and conceivably also more unethically. This prediction could be tested in future research by systematically pairing male negotiators pre-classified in terms of their own attractiveness with relatively more or less attractive opponents.

Our research could also be extended by investigating different negotiation settings. We chose to study distributive negotiations because of their competitive nature, but extending our research to integrative and mixed issues negotiations may be interesting. In purely integrative negotiations it is possible that mating motivation increases cooperation, as gains can only be made through alliance and partnership. In mixed issue negotiations, in which both distributive and integrative issues are present, we speculate that mating motivation would steer negotiator attention to the distributive issues. Integrative solutions may be less likely in such settings. Future studies could also extend our reasoning to coalition formation and systematically vary the attractiveness of potential coalition partners. Our prediction here would be that men would more likely choose attractive coalition partners when their mating motivation is activated, as they present more formidable cooperators (Lee et al., 2015b).

Another way in which our current work can be extended in future investigations is to examine our theory in face-to-face contexts. Based on existing work on competitive tendencies in negotiation being even stronger in higher-media richness contexts (e.g., face-to-face rather than via online chat) (Swaab, Galinsky, Medvec, & Diermeier, 2012), we would expect to find stronger effects of mating motivation on unethical negotiation behavior in face-to-face distributive negotiations. Varying this difference in study context might also allow researchers to examine how women's potential lower perceived competence in negotiations might feed into the process we document. Specifically, Kray et al. (2014) find in a face-to face context that women are deceived more than men, and the effect was mediated by women being perceived as less competent and higher in warmth. We used highly standardized computer-generated faces of the male and female opponents that have been found not to vary in terms of perceived competence and warmth (Lee et al., 2015b). In face-to-face contexts, there would be natural variation along these dimensions, likely further complicating the negotiation dynamics we observe and potentially introducing cross-sex differences. Further research is thus needed to replicate our findings in face-to-face contexts and examine more complex interactions at play in this consequential situation.

Another limitation of our work, and a possible area for future research, is to investigate the hormonal underpinnings of the effects we document. Recent work suggests that hormone levels, specifically testosterone and cortisol, underlie sex differences associated with mating motivation tendencies. A study in consumer behavior found a positive relationship between male prenatal testosterone levels and their courtship-related consumption, suggesting that greater testosterone levels are directly related to mating motivation (Nepomuceno, Saad, Stenstrom, Mendenhall, & Iglesias, 2016). Furthermore, greater levels of testosterone, coupled with cortisol levels, predict unethical behavior (Lee, Gino, Jin, Rice, & Josephs, 2015a). Thus, it is likely that another possible way to operationalize the mediating mechanism of the effect we find is to look at testosterone levels. We believe that such an examination would not lead to predictions beyond the ones we propose here, but a deeper and more thorough examination of the underlying process would certainly allow for a richer understanding of the phenomenon.

Another interesting question generated by our research is to examine other conditions under which women negotiate equally or even more unethically than men. As noted earlier, past negotiation work has been criticized for focusing on a limited set of contexts and behaviors, under which men might be more likely to be unethical (Kennedy & Kray, 2015). We believe evolutionary theory could be used to further improve the generalizability of the conclusions in the negotiation literature. Evolutionary psychology suggests that sex ratio might be one such factor. When the sex ratio is biased toward females such that the majority of people in the environment are females, women's mating chances are lower than males, and intrasexual competition among women increases (Hill & Hurtado, 1996). Past research has examined sex differences in social behavior in female-biased relative to male-biased environments and environments with equal sex ratios. This research found reversal of sex differences in consumption, career choices, and aspiration levels (Durante, Griskevicius, Simpson, Cantú, & Tybur, 2012; Griskevicius, Tybur, Ackerman, Delton, Robertson, & White, 2012). In such situations, it is possible that rates of unethical behavior in negotiation as an intrasexual competition strategy increases. We believe that the investigation of sex ratios in organizational settings through the lens of evolutionary theory is an exciting avenue for future research.

Managerial Implications

We cited some notable costs of unethical negotiation behavior at the outset of the paper, including mistrust between negotiating parties and reputational damage. Our findings suggest conditions under which these consequences are more likely for male negotiators. We find that men are more likely to negotiate unethically when they are motivated to mate and when they negotiate with other men, and particularly attractive men. One implication of our findings is that when assigning males to negotiate, managers should be mindful of the likelihood that intrasexual competition motivation in these males is high. Past research has uncovered some easy-to-observe characteristics that imply higher levels of intrasexual competition tendencies in males. For example, younger males might be more likely to exhibit behaviors associated with intrasexual competition (Wilson & Daly, 1985). Perhaps the most straightforward managerial implication of our findings is that when concerns about unethical negotiation behavior are large (e.g., when the temptation to behave unethically is high), managers might want to assign females to negotiate rather than males.

To the extent that unethical behavior (including that brought about by mating motivation, as we find) is mediated by testosterone and cortisol levels as suggested by Lee et al. (2015a), perhaps reducing the stressfulness of negotiations (i.e., lowering cortisol levels) may help to mitigate the increase in unethical negotiation behavior for individuals who have greater mating motivation (i.e., those with greater testosterone levels). Alternatively, organizations may schedule negotiations in the afternoon rather than in the morning, since testosterone levels tend to be highest in the morning and decrease throughout the day (Resko & Eik-nes, 1966). Our theory also implies that negotiator team composition may influence unethical negotiation behaviors. Teams with very few women but many men may entice more unethical behavior than more equally-balanced negotiation teams. Organizational culture is also important to curb some of the effects we document here. Machismo or risk-taking cultures, such as those found in investment banking, fuel male competitiveness and are likely to exacerbate the effects we document.

CONCLUSION

This paper is among the few to test an evolutionary model of sex differences in organizational behaviors. We believe that this theory is highly generative in making novel predictions about long-standing questions in organizational research, and we find that sex differences in unethical negotiation behavior, a phenomenon that has long been inadequately theorized, can be explained by this perspective. We hope that future organizational research makes further use of this parsimonious model to answer questions about important phenomena in organizations.

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