

Benefit or burden? Attraction in cross-sex friendship

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Abstract

We propose that, because cross-sex friendships are a historically recent phenomenon, men's and women's evolved mating strategies impinge on their friendship experiences. In our first study involving pairs of friends, emerging adult males reported more attraction to their friend than emerging adult females did, regardless of their own or their friend's current relationship status. In our second study, both emerging and middle-aged adult males and females nominated attraction to their cross-sex friend as a cost more often than as a benefit. Younger females and middle-aged participants who reported more attraction to a current cross-sex friend reported less satisfaction in their current romantic relationship. Our findings implicate attraction in cross-sex friendship as both common and of potential negative consequence for individuals' long-term mateships.

Keywords

Cross-sex friendship, friendship, sex differences, sexual attraction, sexual strategies

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“Friendship” can be defined both by what it is and what it is not (Hartup, 1975; Hays, 1988; Wright, 1984). It is a voluntary, cooperative personal relationship involving varying degrees of companionship, intimacy, affection, and mutual assistance. It is typically not defined by a social category such as blood relations or marital partnership (Fehr, 1996). Viewed in light of these characteristics, *cross-sex* friendship has been described as a voluntary, cooperative, non-romantic alliance between members of the opposite sex (Werking, 1997). In the current set of studies, we aim to determine the degree to which men and women experience romantic attraction in these purportedly non-romantic alliances, and the frequency with which they perceive attraction as a benefit rather than a cost of being involved in cross-sex friendships.

The history of research on cross-sex friendship is brief, perhaps because cross-sex friendship itself is considered a historical novelty and because over the lifespan cross-sex friendships are less common than same-sex friendships are (Monsour, 2002). Cross-sex friendships also appear to be more complex than both same-sex friendships and romantic partnerships, which have a clear place in heterosexist society (Werking, 1997). In one of the first papers on cross-sex friendship, O’Meara (1989) proposed that cross-sex friends confront four major challenges: determining the type of emotional bond shared, facing sexuality in the relationship, presenting the relationship as an authentic friendship to outsiders, and addressing equality in the context of gender inequality. O’Meara (1989) suggested that cross-sex friendships incite jealousy in romantic partners and that cross-sex friends must reassure their romantic partners that the friendship is not a threat. Rawlins (1992), too, suggested that there is a prevailing social suspicion of cross-sex friendships. Perhaps that suspicion is rooted in a kernel of truth, because cross-sex friends often do face sexuality in their relationship (Cupach & Metts, 1991). Young men and women in various contexts report experiencing attraction to their cross-sex friends (Afifi & Faulkner, 2000; Bleske & Buss, 2000; Kaplan & Keys, 1997; Reeder, 2000; Swain, 1992). Moreover, some people view sexual attraction as an important reason for initiating a cross-sex friendship (Bleske-Rechek & Buss, 2001) or as adding to friendship closeness (Sapadin, 1988). Men and women engage in a variety of strategic “tests” to determine whether their friends want to be romantically involved with them or not (Baxter & Wilmot, 1984), and if asked will categorize their friendship according to their perceptions of their own and their friend’s desire to be romantically involved (Guerrero & Chavez, 2005).

The intensity with which mating desires manifest in cross-sex friendship varies from study to study. For example, Reeder (2000) reported that the majority of young men and women experience relatively low levels of attraction to their cross-sex friends, whereas Afifi and Faulkner (2000) reported that about half of young men and women have had sexual intercourse with a cross-sex friend. Some of the variability in response from study to study may be a product of how cross-sex friends are defined for participants. Participants who are asked to “think of a friend of the opposite sex” are likely to report more attraction than those who are asked to “think of a friend of the opposite sex with whom you are not romantically involved.” Across studies, however, attraction is a notable component of cross-sex friendship. There is very little research or popular literature on cross-sex friendship that does *not* mention attraction and its potential consequences. In fact, the substantial rate of sexual activity between otherwise non-romantic cross-sex friends is

now widely studied under the term *friends with benefits relationship* (FWBR; Bisson & Levine, 2009; Goodboy & Myers, 2008; Hughes, Morrison, & Asada, 2005; Owen & Fincham, 2011).

Scholars have offered different, but potentially compatible, explanations for the existence of attraction in cross-sex friendship. Some theorists have focused on the societal underpinnings of attraction in friendship. Monsour (2002) has noted that the media instills in men and women the suggestion that they should be attracted to their cross-sex friends. The media portrays “normal” relationships between men and women as sexual, and hence non-sexual relationships between men and women as strange and essentially impossible. This attitude is demonstrated in some of the most popular American television series and movies of the 1980s, 1990s, and 2000s – *Moonlighting*, *Cheers*, *When Harry Met Sally*, *Friends*, *The Office*, *Scrubs*, *He’s Just Not That Into You* – all of which thrive on romantic tension and excitement portrayed between cross-sex “friends” who end up either in a romantic partnership or a temporary attempt at one.

Evolutionary theorists have proposed that attraction in friendship has functional underpinnings (Bleske & Buss, 2000; Koenig, Kirkpatrick, & Ketelaar, 2007). One possibility is that humans have psychological adaptations specific to cross-sex friendship, and these adaptations guide men’s and women’s behaviors in the formation, maintenance, and termination of cross-sex friendships (Bleske, 2001). This adaptationist perspective on cross-sex friendship requires that our human ancestors engaged recurrently in friendships with members of the opposite sex. It also requires that engaging in those friendships served as an effective strategy for solving one or more problems of survival or reproduction, such as gaining physical protection or sexual access, such that individuals who engaged in cross-sex friendships out-reproduced, on average, individuals who did not.

In the current paper, we propose an alternate evolutionary hypothesis, which is that men’s and women’s perceptions of their cross-sex friends are a manifestation of evolved human mating adaptations operating in a modern environment. That is, attraction in cross-sex friendship is a byproduct of humans’ evolved mating strategies being activated in a novel social context. According to this byproduct hypothesis, humans’ evolved mating strategies motivate involvement in cross-sex friendships and also lead to attraction to friends, even when not consciously intended. This explanation has two requirements: first, that what people generally define as cross-sex friendship is unique to recent human history; and second, that humans have evolved mating strategies. We discuss each of these in turn.

Cross-sex friendship as a historical novelty

Various sources of evidence suggest that the large majority of human ancestral history was very different from the modern world (Buss, 2008). Until approximately 10,000 years ago, or for over 99% of *homo* history, humans’ ancestors lived as foraging nomads. They appear to have lived in small groups comprised largely of reproductive partners and kin, as do people who live in traditional societies today (Chagnon, 1992). Females began their reproductive life early, and males engaged in sexually proprietary behaviors to restrict their female reproductive partners from consorting with or being taken by other males (Symons, 1979; Wilson & Daly, 1995). Ethnographic records contain only widely

scattered allusions to the notion of cross-sex friendship across cultures (Bleske, 2001). It seems unlikely, then, that genetically unrelated, reproductive aged males and females engaged in non-sexual, supportive relationships – friendships – over the majority of our ancestral history.

In many parts of the modern world, however, genetically unrelated men and women of reproductive age now interact in unprecedented ways: they work together, entertain their children together, play sports together, and pursue vocational training and hobbies together; yet these alliances are not fundamentally reproductive or sexual unions. Historical accounts suggest that these non-reproductive interactions are unique to modern society (Monsour, 1997). People may be influenced to some degree by general friendship schemas that they have already acquired from cultural influences and same-sex friendships, but those general friendship schemas are not the only influence. Those friendship schemas may be “sidetracked” by our evolved mating desires and strategies – desires that are automatically activated in the context of being around a genetically unrelated member of the opposite sex. We suggest that men’s and women’s perceptions of their cross-sex friendships are influenced unconsciously by their evolved mating strategies.

Evolved mating strategies

Modern humans are all descendants of a long line of ancestors who successfully navigated the many challenges of mating, such as selecting a healthy, fertile mate, outcompeting rivals to attract a mate, and engaging in necessary behaviors for conception. Evolutionary psychologists argue that over the past millions of years, selection has forged in humans psychological adaptations specifically dedicated to problems of mating (Buss & Schmitt, 1993). In some ways, these adaptations are common to men and women. For example, over ancestral history both males and females would have benefited from engaging in long-term partnerships. For males, long-term mateships would have facilitated the acquisition of, and exclusive sexual access to, a highly desirable mate; for females, long-term mateships would have facilitated the acquisition of an investing father to aid offspring survival. Research supports this logic. Men and women both report high levels of effort toward long-term mating (Bleske-Rechek, VandenHeuvel, & Vander Wyst, 2009; Jackson & Kirkpatrick, 2007). Marriage occurs across cultures (Brown, 1991), and males and females across cultures place importance on characteristics that facilitate long-term bonding, such as sexual faithfulness and kindness (Buss, 1989).

In some ways, however, male and female mating adaptations are expected to differ. One of the primary processes driving sex differences in mating adaptations is differential parental investment (Trivers, 1972). In humans, as is the case throughout much of the animal kingdom, females invest far more in offspring than males do, with an obligatory investment of nine months and costly labor and gestation to follow. Moreover, human offspring survival rates in traditional societies suggest that, historically, offspring survival has depended on biparental care (Geary, 2000; Hill & Hurtado, 1996). Selection thus should have forged in human females psychological adaptations that guide them to be highly choosy in their choice of sex partners, with a general disposition against indiscriminate sex. In contrast, males would have had little to lose and much to gain from

engaging in indiscriminate sex, because males who did not engage in indiscriminate sex would eventually have been out-reproduced by males who did. In empirical support of this logic about sex differences in evolved sexual choosiness, men across cultures display a stronger orientation toward short-term mating than do women (Buss & Schmitt, 1993; Jackson & Kirkpatrick, 2007; Schmitt, 2005). Substantial evidence also suggests that, as facilitators of a short-term mating strategy, men desire a greater number of sex partners than women do (Schmitt, Shackelford, Duntley, Tooke, & Buss, 2001), experience lower levels of sexual attraction to their partners after initial sexual access to them (Haselton & Buss, 2001), over-infer the degree of sexual attraction portrayed in ambiguous signals from women (Haselton & Buss, 2000), and fantasize more about sexual access to a variety of partners (Ellis & Symons, 1990). In addition, men show attentional bias to highly attractive women (Maner, Gailliot, & DeWall, 2007), and tend to downgrade their current romantic relationship commitment after exposure to desirable women (Kenrick, Neuberg, Zierk, & Krones, 1994). Thus, a variety of research paradigms have demonstrated support for a stronger short-term mating orientation in men than in women, with specific preferences and desires in place to facilitate the successful pursuit of short-term mating. (Although women on average are strongly oriented toward long-term mating, and show less interest in short-term mating than do men, evidence suggests that women do also possess short-term mating strategies; see Thornhill and Gangestad, 2008, for a review).

Study I Objectives

In summary, multiple sources of data suggest that men and women possess a suite of adaptations devoted to mating. If human mating strategies are activated in the historically novel context of cross-sex friendship, then men's and women's perceptions of their cross-sex friends should correspond to the structure of those mating strategies. We designed our first study to test four specific predictions. First, under the assumption that experiences between cross-sex friends reflect men's heightened short-term mating desires relative to women's, we predict that men will experience more sexual attraction to their female friends than women will to their male friends (e.g., Bleske & Buss, 2000). Second, given that falsely assuming sexual interest was a less costly error for men over evolutionary history than was missing sexual interest, men should overestimate how sexually attracted their friends are to them (e.g., Koenig et al., 2007). Third, given the benefits to men over ancestral history of engaging in both long- and short-term mating (Gangestad & Simpson, 2000), young men's attraction to their friends should be similar regardless of their own (or their friend's) current relationship involvement. Finally, we expect to see perceptions of cross-sex friends that reflect the prominence for women of long-term mating relative to short-term mating. If women's strong *long-term* mating orientation is driving their friendship experiences with the opposite sex, the absence of a long-term mateship should promote romantic interest in members of the opposite sex. Thus, we predict that women who are not involved in a long-term romantic relationship (i.e., single women) will feel more attraction to their cross-sex friends than will women who are involved.

Study 1: Attraction in cross-sex friendship pairs

Study 1 was designed to assess whether the structure of men's and women's mating strategies is reflected in men's and women's feelings of attraction toward their cross-sex friends. Although other studies have documented initial support for our first prediction that men experience more attraction than women do to their cross-sex friends (Bleske & Buss, 2000; Bleske-Rechek & Buss, 2001; Kaplan & Keys, 1997), those studies are limited by their failure to include reports from both members of the dyad (see Koenig et al., 2007, for an exception). Although participants generally are asked to report on a friend of the opposite sex who is neither a dating partner nor family member (e.g., Bleske & Buss, 2000), it is possible that the robust sex difference in attraction may be a product of men and women having a different "type" of friend in mind when they are asked to report on a cross-sex friend. In the current study, we systematically surveyed both members of the friendship pair to remove this possibility.

Method

Study 1 participants were 88 cross-sex friendship pairs. Students from a public university in the United States attended a research session in return for credit toward a course research participation requirement. The research participation sign-up sheet requested that participants be traditional college students of heterosexual orientation and that they bring to their session a friend of the opposite sex who was neither from class nor a family member or romantic partner (participants' responses on the study questionnaire confirmed that no friendship pairs were dating. At two separate points in the questionnaire, participants were asked in slightly different terms whether they were currently romantically involved with the friend they had attended the session with that day; no participant responded yes to either question). The typical friendship was of two years' duration (range = two weeks to 17 years); friends' reports of their friendship duration correlated at .92.

Upon arrival at the session, friends were taken through standard consent form procedures and informed that they and their friend would be completing identical questionnaires. Friends were told their responses would remain anonymous and confidential, and agreed orally with the researcher, in front of each other, to refrain from discussing the questionnaire at any point, even after completing the study. We engaged participants in this agreement because we assumed participants would be more honest in the questionnaire if they did not harbor any concerns that their friend might ask them afterward how they had responded to different questions. We then brought them to separate rooms to complete identical questionnaires. Interspersed among a variety of filler sections, participants reported on their own current relationship status, their physical and sexual attraction toward their friend as well as their desire to date their friend, and their perception of their friend's level of physical and sexual attraction toward them and desire to date them. Perceptions of attraction to and from friend were reported on nine-point rating scales ranging from *Not at all Attracted* (1) to *Moderately Attracted* (5) to *Extremely Attracted* (9). Because sexual attraction and physical attraction ratings were essentially redundant (Cronbach's α for sexual/physical attraction to friend = .97 for men and .90

Table 1. Study 1: Attraction in emerging adult cross-sex friendship pairs

	Men ($n=88$) Mean (SD)	Women ($n=88$) Mean (SD)
Self-reported attraction to friend	4.94 (2.49)	3.97 (2.14)
Estimate of friend's attraction to self	4.54 (2.02)	4.25 (2.07)
Self-reported desire to date friend	4.55 (2.41)	3.90 (2.54)
Estimate of friend's desire to date self	4.79 (2.00)	4.28 (2.29)

Note. All variables were measured on a nine-point (1 to 9) scale.

for women; α for sexual/physical attraction from friend = .88 for men and .92 for women), those responses were averaged to form composite “attraction” scores. Self-reported interest in going on a romantic date with one’s friend and perception of a friend’s interest in going on a date with them were reported on nine-point rating scales ranging from *Definitely Not* (1) to *Neutral/Unsure* (5) to *Definitely Yes* (9).

Results

Table 1 displays men’s and women’s mean level of attraction toward and desire to go on a romantic date with their friend, and their perceptions of their friend’s attraction to them and interest in dating them. For neither sex was friendship duration associated with level of attraction to friend or perceived level of attraction from friend, all $ps > .40$. Friends’ reports of attraction to each other were weakly, but not significantly, correlated, $r(87) = .19$, $p = .09$. However, men’s attraction to their female friend was strongly associated with their estimate of how attracted their friend was to them, $r(87) = .61$, $p < .001$, and women’s attraction to their male friend was strongly associated with their estimate of how attracted their friend was to them, $r(87) = .49$, $p < .001$.

Prediction 1: Young men experience more attraction to their friends than young women do.

Consistent with our first prediction, a paired-samples t -test revealed that men reported more attraction to their female friends ($M = 4.94$, $SD = 2.49$) than women did to their male friends ($M = 3.97$, $SD = 2.14$), $t(87) = 3.08$, $p < .001$, $d = 0.66$ (see Figure 1, top).

Prediction 2: Men overestimate attraction from their female friends.

Support for our second prediction is displayed in the bottom panel of Figure 1: although men tended to be aware that their female friend was less attracted to them than they were to their female friend (paired-samples $t(86) = 1.88$, $p = .06$, $d = 0.20$), men still overestimated their female friend’s level of attraction to them (paired-samples $t(86) = 2.23$, $p = .03$, $d = 0.24$). Women underestimated their friend’s level of attraction to them (paired-samples $t(86) = 2.87$, $p = .005$, $d = 0.31$); in fact, their perception of their male friend’s attraction to them did not differ significantly from their own level of attraction to their male friend (paired-samples $t(86) = 1.26$, $p = .21$, $d = 0.14$). Men also tended to report a stronger desire to date their friend than women did

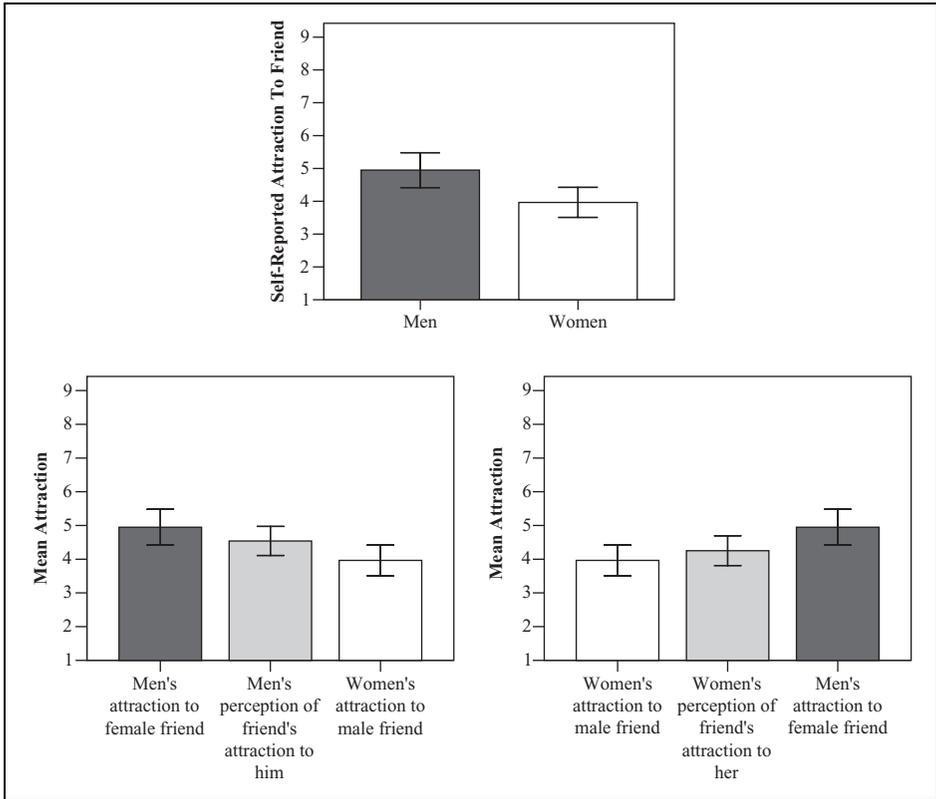


Figure 1. Study 1: Friends' self-reported attraction to one another, followed by display of males' overestimation, and females' underestimation, of their cross-sex friend's attraction to them. Error bars represent 95% confidence intervals.

(paired-samples $t(85) = 1.80, p = .08, d = 0.39$). Men overestimated their friend's desire to date them (paired-samples $t(85) = 3.47, p < .01, d = 0.37$), whereas women estimated with reasonable accuracy their friend's desire to date them (paired-samples $t(85) = 1.09, p = .28, d = 0.12$).

Predictions 3 and 4: Men's attraction does not vary with relationship status; women's does.

Our third prediction was that men's attraction to their friend would *not* vary with their own (or their friend's) romantic relationship involvement. Figure 2 displays attraction to friend and desire to date friend as a function of participants' sex and participants' own relationship status. Of the men in the sample, 33% ($n=29$) stated that they were currently involved in an exclusive dating relationship. As shown in Figure 2, men who were currently involved reported a level of attraction to their friend ($M = 5.07, SD = 2.40$) that was not significantly different from that reported by men who were *not* currently in an exclusive dating relationship ($M = 4.89, SD = 2.56$; independent-samples $t(85) = -.32,$

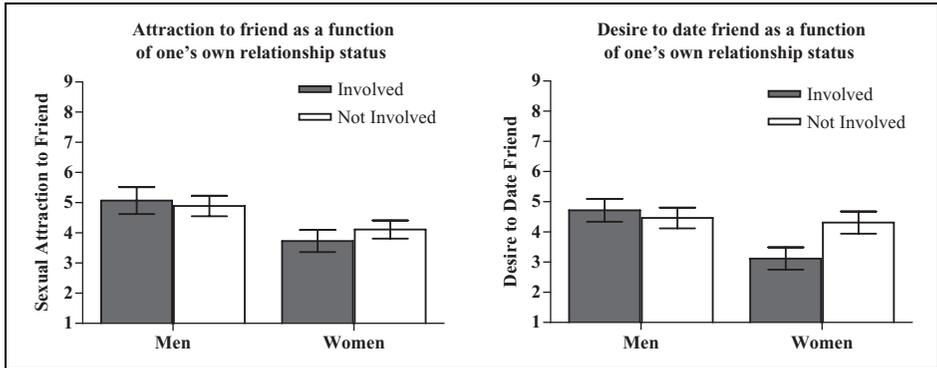


Figure 2. Study 1: Men's and women's self-reported attraction to their friend (left panel) and desire to date their friend (right panel) as a function of their own relationship status.

$p = .75$, $d = -0.07$). Men who were currently involved ($M = 4.72$, $SD = 2.07$) and men who were not currently involved ($M = 4.46$, $SD = 2.07$) also did not differ in their desire to go on a romantic date with their friend (independent-samples $t(68.54) = -0.52$, $p = .60$, $d = -0.13$).

Of the women, 38% ($n=33$) stated that they were currently involved in an exclusive dating relationship. Similar to the pattern of findings for men, and contrary to expectation, women who were involved ($M = 3.73$, $SD = 2.10$) and women who were not involved ($M = 4.11$, $SD = 2.18$) reported a similar level of attraction to their friend (independent-samples $t(85) = 0.81$, $p = .42$, $d = 0.18$). Consistent with our fourth prediction, however, women who were involved reported *less* interest in going on a date with their friend ($M = 3.12$, $SD = 2.15$) than did women who were not involved in a romantic relationship ($M = 4.31$, $SD = 2.68$; independent-samples $t(85) = 2.17$, $p = .03$, $d = 0.48$).

Figure 3 displays attraction to friend and desire to date friend as a function of participants' sex and their friend's relationship status. A total of 29 men reported that their friend was involved in an exclusive dating relationship with someone. In six cases, men said their friend was not involved in a relationship but the friend reported that she was. In two cases, men said their friend was involved in a relationship but she said that she was not. Men who thought that their friend was romantically involved with someone reported a similar level of attraction to their friend ($M = 5.24$, $SD = 2.30$) compared to those men who thought their friend was not currently in a relationship ($M = 4.80$, $SD = 2.59$; independent-samples $t(85) = -0.77$, $p = .44$, $d = -0.17$). The two groups of men also reported similar levels of interest in going on a date with their friend (involved $M = 4.86$, $SD = 1.98$; not involved $M = 4.39$, $SD = 2.61$; independent-samples $t(71.55) = -0.94$, $p = .35$, $d = -0.22$).

A total of 23 women reported that their friend was involved in an exclusive dating relationship with someone. In six cases, women said their friend was not involved in a relationship but the friend reported that he was. In two cases, women said their friend was involved in a relationship but he said that he was not. Women who thought that their friend was romantically involved with someone tended to report less attraction to their

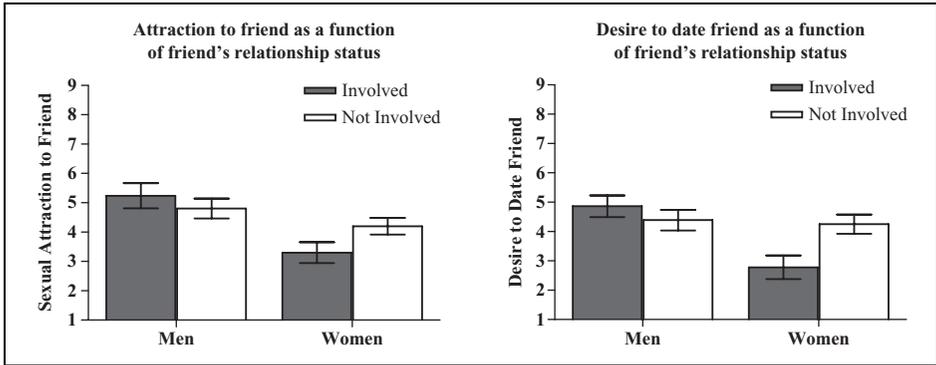


Figure 3. Study 1: Men's and women's self-reported attraction to their friend (left panel) and desire to date their friend (right panel) as a function of their friend's current involvement in a romantic relationship.

friend ($M = 3.30$, $SD = 1.71$) than did women who thought their friend was not currently involved with someone ($M = 4.20$, $SD = 2.24$; independent-samples $t(50.81) = 1.98$, $p = .05$, $d = 0.56$). Women who thought their friend was involved also reported less interest in going on a date with their friend (involved $M = 2.78$, $SD = 1.91$; not involved $M = 4.25$, $SD = 2.65$; independent-samples $t(54.05) = 2.84$, $p = .006$, $d = 0.77$).

Discussion

The findings from Study 1 highlight men's greater physical-sexual attraction to their cross-sex friends relative to women's, as well as men's tendency to overestimate their friends' attraction to them. These findings provide initial support for the overarching hypothesis that men's and women's perceptions of their cross-sex friends reflect the structure of men's and women's evolved mating strategies. We documented these effects using pairs of friends, so the higher level of attraction reported by young men cannot be a result of men's responses being about a different "type" of friend compared to women. Perhaps the young women were less inclined than men were to admit attraction to a cross-sex friend, but our findings coincide with a variety of other studies that have documented sex differences in attraction toward friends (e.g., Kaplan & Keys, 1997). Moreover, men and women completed their questionnaires in separate rooms under anonymous conditions with confidentiality agreed to by all parties.

The men in Study 1 also reported moderate levels of attraction to (and desire to date) their friend regardless of their own current romantic involvement or their friend's current romantic involvement. We predicted this pattern of effects from evolutionary logic that young males possess strong short-term mating desires that are activated in the context of the opposite sex, regardless of their current relationship involvement. Women, whose long-term mating orientation tends to dominate, reported less desire to date their friend when they were already in a committed relationship. Given sex differences in sexual strategies and the possibility that cross-sex friendships serve as precursors to both short-term and long-term mateships, we speculate that research that follows men's and women's

friendship networks over time might show that young women initiate new cross-sex friendships more when single than when involved, whereas young men initiate new cross-sex friendships at a similar rate regardless of their own relationship involvement.

Our questions pertaining to relationship status revealed that friends were not in complete agreement about each other's romantic relationship status. In fact, there were six men and six women who thought their friend was not involved in a romantic relationship when they actually were (by self-report). We speculate that this imperfect knowledge is a function of the murky relationship boundaries between cross-sex friends (Hand & Furman, 2008; O'Meara, 1989). Previous studies suggest that friends do not openly discuss dating and sexual issues with their cross-sex friends (Afifi & Guerrero, 1998; Afifi & Burgoon, 1998). Some men and women even report that they have actively deceived their friends about their own romantic relationship involvement (Bleske-Rechek, Matteson, Gragg, & Stocco, 2006).

Study 2 objectives

Study 1 provided initial empirical support for our hypothesis that evolved mating strategies impinge on men's and women's voluntary cooperative relationships with members of the opposite sex. We designed a second study to test additional predictions derived from the byproduct hypothesis. First, if mating strategies influence people's perceptions of their cross-sex friends, then friendship perceptions should differ for people confronting different mating challenges. Accordingly, we aimed to compare the extent to which emerging adults (late adolescence to mid-twenties) and young and middle-aged adults (late twenties to about 50) experience attraction to their cross-sex friends. Emerging adult men and women are of prime reproductive age and likely to be actively engaged in mate search; men and women in their thirties and forties are more likely to be investing in a committed partnership such as marriage and less likely to be devoting substantial time to mate search and acquisition. Young and middle-aged adults also are more likely to be engaging in parenting effort (which detracts from mating effort) than are emerging adults, and they are more likely to be supporting themselves and thus investing time in their career. All these competing demands imply that men and women in young and middle adulthood should experience lower levels of attraction to their cross-sex friends than emerging adults should.

Second, we aimed to test an underlying assumption of the byproduct hypothesis of opposite-sex friendship, which is that men's and women's mating desires may surface unconsciously and unwantedly in the context of interacting with unrelated members of the opposite sex. In a variety of modern contexts such as school, work, and business, men and women of varying ages enter purposefully into meaningful alliances with members of the opposite sex. Their conscious intent may be platonic, but romantic attraction may surface merely as a function of interacting with individuals who would have been considered potential mates throughout evolutionary history. Although attraction has the potential to add zeal to some cross-sex friendships (Afifi & Faulkner, 2000), it also may hinder, or at least temporarily derail, the alliance (Messman et al., 2000). It might upset the emotional status of the friendship (should the friends attempt to be more?); it might cause tension if the attraction is asymmetrical or one-sided; and it might jeopardize a

romantic relationship that one or both friends is already involved in, particularly if the attraction between friends is mutual. Thus, we predict that men and women should perceive attraction in cross-sex friendship more often as a detriment to, or cost of, the friendship than as a benefit. However, to the extent that over evolutionary history men would have gained more from taking advantage of additional sexual opportunities than women would have, men should perceive attraction in friendship as a benefit more often than women should. Finally, if mating desires surface in cross-sex friendship, even for those who are not necessarily looking for mateship opportunities, then people who already are in a serious relationship (e.g., married) should be more likely than single people to perceive attraction in cross-sex friendship as costly. Accordingly, we expect young and middle-aged adults, the majority of whom are married, to be more likely than emerging adults to nominate attraction as a cost of cross-sex friendship.

Study 2: Nominations of attraction as a cost or benefit of cross-sex friendship

In Study 2 we utilized a cross-sectional survey design. Two samples of men and women, one composed of emerging adults and the other of young and middle-aged adults, provided information about a specific cross-sex friend. They also listed their perceptions of the costs and benefits of cross-sex friendships in general. Instead of supplying men and women with lists of benefits and costs for them to rate, we intentionally used an act nomination approach. If attraction is common in cross-sex friendship, then men and women should nominate it when given the general task of listing several good things and bad things about friendship. By comparing the frequency with which attraction was nominated as a cost as opposed to a benefit, we could gauge men's and women's valence toward it.

Measuring attraction

As noted above, past studies vary in the degree to which they find attraction operating in cross-sex friendship, and some of that variation may be a function of how "cross-sex friend" is defined for participants. Some of the variation may also be a function of the specific questions that are posed to participants. For example, participants report less *physical-sexual* attraction to cross-sex friends (which we used in Study 1) than *friendship* attraction (Reeder, 2000). In Study 2, we asked men and women to think about a specific friend of the opposite sex (who was not a romantic partner or family member) and then report the degree to which they experienced *romantic* attraction to that person. It is reasonable to assume that physical, sexual, and romantic attraction are interrelated but not identical constructs, just as *attraction* to a friend may be related to, but not identical to, the perception of a friend as *attractive*. To the extent that men and women find a friend attractive, the door is opened slightly for the possibility of further interaction (Guerrero & Mongeau, 2008). If men and women experience even a low level of physical, sexual, or romantic attraction to a friend, they may be slightly more drawn to that friend as an interaction partner. Thus, when we invoke the term "attraction," we are not suggesting that men and women should feel a conscious desire to have sex with

their friend or actually begin a sexual relationship with them; rather, we suggest that they are experiencing potentially low levels of feelings that could, depending on the circumstances, result in a sexual or romantic encounter or relationship.

Method

Emerging adult sample. Participants in the emerging adult sample were 42 men and 65 women aged between 18 and 23 ($M = 19.34$ years) from a regional public university in the Midwestern United States. Participants were enrolled in an introductory course in Psychology and received credit toward a research participation requirement. We acquired this traditional college student sample by convenience. We also intentionally sampled college students to enable a clear comparison, in terms of life situation, with men and women in their late twenties and beyond. Of the emerging adults, 38% were currently involved in a romantic relationship, and no one was married.

Young and middle-aged adult sample. By post mail, we sent paper questionnaires to 132 male and 191 female adults around the United States. Of the adults on the mailing list, 80% were from the Midwest. We compiled the mailing list by asking students and research assistants to compile addresses of relatives, neighbors, and employers between the ages of 27 and 55. Because the median age of marriage in the US is 26 for females and 28 for males (U.S. Census Bureau, 2010), we decided that starting at age 27 would allow us to access a sample of people who were likely to have launched into marriage and full-time work. After the initial mailing and a sample-wide postcard reminder, a total of 52 men and 90 women (39% response rate for men, 47% for women) returned their questionnaire in the self-addressed, prepaid envelope that we provided. The sample ranged in age from 27 to 52 (mean = 37.37). Because 95% of the sample was between the ages of 27 and 50, we termed this the “young and middle-aged adult” sample. Notably, the majority of the men and women in this sample were in their thirties and early forties, and 88% of the men and 91% of the women were married and thus in a similar position regarding mateship status. For analyses, then, we analyzed them together, across age, as one group to be compared with the emerging adult sample (in which no one was married). We could not compare respondents from non-respondents on age or marital status (that information was unknown for many on the original mailing list), but 80% of respondents’ envelopes were from Minnesota and Wisconsin. Further, 90% of the respondents were married, which is typical of Midwestern samples. Of the cross-sex friends described by participants, 66% were also married, and another 10% were in a serious relationship. (Only 47% of participants and 40% of the cross-sex friends that participants described had been married when the friendship began.) Although the sample was obtained through networking and thus limited in that respect, it was similar to our emerging adult sample in its Midwestern composition.

Measures. Participants completed a questionnaire about their same-sex and cross-sex friendship networks. Only the cross-sex friendship components are described below. Participants reported how many friends of the opposite sex they had; they then reported how many friends of the opposite sex they had who were not romantic partners or family

members through blood or marriage. Next, they reported on up to ten blank lines the ways in which their cross-sex friendships enhanced their lives or were beneficial to them, and the ways in which their cross-sex friendships complicated their lives or were costly to them. Half of the participants completed the tasks in reverse order. In a separate section of the questionnaire, participants reported in detail about their closest cross-sex friend who was not a romantic partner or family member. Participants reported how long they had been friends and how they became friends (e.g., through work, school, shared activities, children). After some filler items, participants used a nine-point scale (1 = *Not at all* to 9 = *A lot*) to rate the degree to which they experienced romantic attraction toward their friend. Using a five-point rating scale (1 = *Not at all* to 5 = *Extremely*), they also judged the importance of 32 different reasons for maintaining the friendship. These reasons were generated by the researchers based on a previous unpublished study by the first author of men's and women's perceptions of their true and fair-weather friendships. The reasons spanned a variety of motivations, such as shared interests and activities, common life situation, confidence building, advice and information, and attraction. For analyses below, we focus on four items that assessed attraction as a reason for maintaining the friendship: I am physically attracted to him/her; s/he makes me feel attractive; s/he is attractive; we flirt ($\alpha = .89$). Finally, participants reported their age, relationship status, and level of romantic relationship satisfaction (on a nine-point scale ranging from 1 = *Extremely dissatisfied* to 5 = *Neutral* to 9 = *Extremely satisfied*) if currently involved.

Results

Table 2 provides an overview of the samples. The older sample was more likely to be seriously involved or married, and they reported fewer cross-sex friends than did the younger sample. Although a greater proportion of middle-aged adults than emerging adults reported having no opposite-sex friends, the specific friendships described by middle-aged adults were of longer duration (typically 9–10 years) than were those described by emerging adults (4–5 years). Regardless of whether family and mates were included or not, men and women in the young and middle-aged adult sample did not differ in their reported number of opposite-sex friends ($ps > .40$), but emerging adult men reported more opposite-sex friends than emerging adult women did ($ps < .03$).

Benefit and cost nominations. Within each age group and each sex, participants nominated more benefits than costs of opposite-sex friendship (all $ps \leq .007$), and within each age group and each sex, participants who nominated more benefits also nominated more costs (all $rs \geq .37$, $ps \leq .007$). Participants nominated a total of 691 benefits and 423 costs of opposite-sex friendship. To begin the categorization process, the three researchers each went through the stack of benefit nominations (each had been placed on an index card with participant identification number on the back) and separated them into conceptually distinct piles, which they developed labels for as they went. The first author developed categories first and suggested the other two researchers aim for 20 categories. Second, after each of the three researchers had developed a list of category names with corresponding nominations, the researchers met as a group, compared categories, and decided on category labels. Specific nominations that overlapped for two of the three

Table 2. Study 2: Overview of the emerging adult and young and middle-aged adult samples

	Emerging adults		Young and middle-aged adults	
	Men	Women	Men	Women
Age	19.31 (1.47)	19.26 (1.33)	37.32 (6.86)	37.40 (7.19)
Seriously involved or married (%)	11 (26.2%)	29 (44.6%)	45 (88.2%)	82 (91.1%)
Number of opposite-sex friends	12.52 (15.01)	6.31 (6.40)	5.86 (5.82)	5.27 (6.57)
Number of opposite-sex friends excluding relatives and romantic partner	8.74 (8.54)	5.35 (5.88)	3.86 (3.64)	3.30 (4.11)
Number (%) with no opposite-sex friends	1 (2.4%)	2 (3.1%)	7 (13.7%)	11 (12.4%)
Number of benefits nominated (up to 10)	2.83 (1.67)	3.88 (1.56)	3.02 (1.96)	2.92 (1.94)
Number of costs nominated (up to 10)	2.14 (1.76)	2.32 (1.12)	1.40 (1.26)	1.21 (1.09)
Duration of opposite-sex friendship (in months)	50.24 (45.54)	57.77 (47.25)	100.63 (76.61)	124.8 (99.11)
*Met opposite-sex friend (%):				
Through work	4.8	4.6	44.7	27.7
Through school	71.4	64.6	23.4	25.3
Through another friend	42.9	40.0	17.0	14.5
Through a romantic partner	4.8	6.2	2.1	10.8
Through children	0.0	0.0	4.3	6.0
Through a family member	4.8	6.2	2.1	7.2
Through other means	9.5	12.3	14.9	15.7
Most frequent form of contact with opposite-sex friend (%):				
Phone	33.3	29.8	21.7	26.5
Email	15.4	12.3	28.3	15.7
In person	51.3	49.1	47.8	57.8
Other	0.0	8.8	2.2	0.0

Note. Values represent means (and standard deviations), unless noted as a percentage. *Participants could check more than one option for how they met their opposite-sex friend.

researchers were placed into the category that the two researchers had agreed upon. A few nominations that had been placed into a different category by each researcher were resolved through discussion; most of them were placed in a “too vague to categorize” pile. This entire process was then repeated for the cost nominations. Tables 3 and 4 display the final lists of benefit and cost categories, respectively, with a sample nomination for each category and the percentage of men and women in each age group to list an act from each category.

Prediction 1. Young and middle-aged adults experience less attraction to cross-sex friends than emerging adults do.

We reasoned that young and middle-aged adults (who are more likely to be investing in long-term contractual partnerships, children, and work) would experience less attraction

Table 3. Study 2: List of benefit categories (with a sample act of each category), and the percentage of men and women to nominate acts from each category

Benefit Category	Emerging adults		Young/middle-aged adults	
	Men	Women	Men	Women
<i>Sexual attraction/Mating desires</i> "There is the possibility of romance."	12	3	10	1
<i>Meeting the opposite sex/Mate potential</i> "They are willing to hook me up with their friends."	12	0	4	0
<i>Networks</i> "Meet new people."	0	2	2	5
<i>Companionship/Share activities</i> "It's nice to have someone to pal around with."	14	25	29	25
<i>Common Interests/Situations/Issues</i> "We share personal experiences."	12	6	16	9
<i>Receiving support (emotional, physical, financial)</i> "I can fall back on them for help."	21	26	27	26
<i>Protection</i> "Security."	2	11	2	7
<i>Conversation/Advice</i> "Someone to talk to."	41	35	45	31
<i>Understandings of/Perspectives on opposite sex</i> "Insight into the mind of the opposite sex."	43	45	53	49
<i>Relatable/Understanding</i> "Easy to relate to and talk to."	7	19	8	17
<i>History together</i> "We share a history; been friends forever."	0	0	2	3
<i>Desirable personality traits</i> "I can trust them."	17	17	8	11
<i>Easy maintenance</i> "Easy to maintain the friendship long distance."	0	0	0	3
<i>Confidence/Well-being/Motivator</i> "They boost my self-esteem."	7	2	16	19
<i>Grounded/Emotional stability</i> "Balanced view of life."	2	3	4	4
<i>Fun/Laughter</i> "People to have fun with."	12	31	12	26
<i>Laid back/Easygoing/Less dramatic friendship</i> "Less drama."	2	49	0	15
<i>Emotional intimacy/Confidant</i> "We can easily discuss emotions."	17	8	10	7
<i>Knowledge acquisition</i> "Opens me up to learn from new experiences."	5	6	2	10

to their friends than would emerging adults (who are of prime reproductive age and more likely to be actively seeking potential mates). Figure 4 shows support for our prediction: young adult and middle-aged women reported less attraction toward their male friends

Table 4. Study 2: List of cost categories (with a sample act of each category), and the percentage of men and women to nominate acts from each category

Cost category	Emerging adults		Young/middle-aged adults	
	Men	Women	Men	Women
Sexual attraction/Mating desires "Can lead to romantic feelings."	22	47	14	33
Interferes with romantic partner/Jealousy "My romantic partner gets jealous of our friendship."	8	9	25	38
Interferes with other relationships "Can create tension with other friends."	8	2	0	5
Competition "Sometimes we might feel in competition."	0	2	0	0
Mating rivalry "We may like the same guy."	3	3	0	0
Relational (Indirect) aggression "Talking behind other people's backs."	11	0	6	0
Deception/Betrayal/Manipulation "Being taken advantage of."	5	6	3	2
Conflict/Confrontation/Fighting "Can get confrontational at times."	8	2	0	2
Time, availability, distance "Takes time away from my family life."	11	9	22	8
Maintenance/Effort "It takes effort to maintain."	5	3	14	5
Giving support (emotional, physical, financial) "Having to support someone emotionally."	5	0	8	3
Emotionally draining, stressful "They can cause a lot of drama and stress."	32	11	33	6
Friendship as superficial/Lack of intimacy "It's hard to talk to them about everything."	5	13	6	10
Poor communication/Misunderstandings "Misunderstandings and miscommunication."	5	9	6	6
Undesirable personality traits "They are neurotic."	16	20	14	5
Selfishness "They have no regard for my schedule."	0	3	3	2
Negative outcomes, Risk "Hard feelings led to the loss of a friendship."	16	14	11	13
Dissimilar perspectives and situations "We're at different places in our lives."	11	36	6	10
Assumptions/Expectations "Others assume an affair is going on."	8	6	6	5
Jealousy (unspecified) "Jealousy."	8	3	3	2

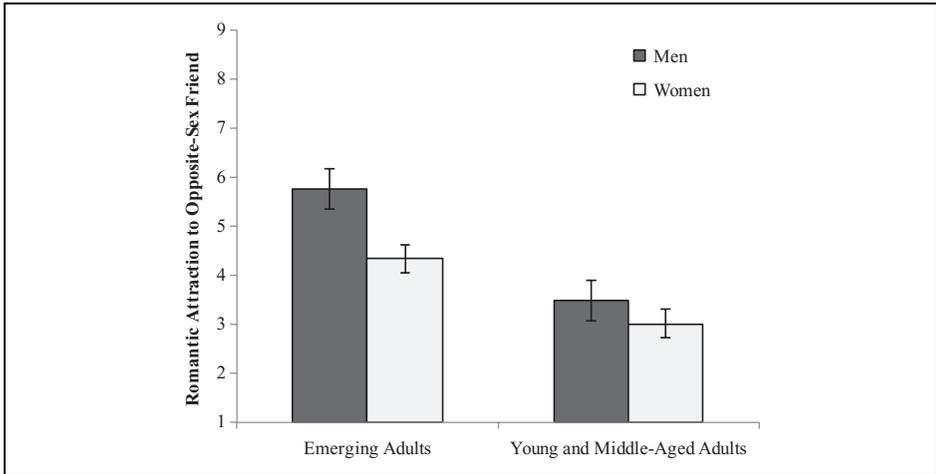


Figure 4. Study 2: Emerging adults' and young and middle-aged adults' self-reported level of attraction to their opposite-sex friend.

($M = 3.01$, $SD = 2.44$) than emerging adult women did ($M = 4.34$, $SD = 2.34$), independent-samples $t(146) = -3.34$, $p = .001$, $d = -0.55$; and middle-aged men reported much less attraction toward their female friends ($M = 3.48$, $SD = 2.41$) than younger men did ($M = 5.76$, $SD = 2.65$), $t(86) = -4.24$, $p < .001$, $d = -0.87$. These age differences did not replicate when we isolated the analysis to single participants. Women in the older sample who were single reported as much attraction to their cross-sex friend ($M = 4.63$, $SD = 3.07$) as did younger single women ($M = 5.03$, $SD = 2.40$), independent samples $t(42) = -0.41$, $p = .685$, $d = -0.12$. Men in the older sample who were single also reported just as much attraction to their cross-sex friend ($M = 6.00$, $SD = 2.00$) as did men in the younger sample who were single ($M = 5.70$, $SD = 2.76$), independent samples $t(34) = 0.25$, $p = .802$, $d = 0.09$. Thus, older men and women who were likely to be engaged in mate search (i.e., they were single) experienced as much attraction to their cross-sex friends as emerging adults did.

Prediction 2. Attraction is perceived as a cost more often than as a benefit.

Our next predictions focus on the frequency with which participants spontaneously mentioned attraction and mating desires in their nominations about cross-sex friendship. Because men and women gave open-ended responses, it was difficult to infer the actor vs. target of attraction. For example, benefit nominations falling into the "attraction and mating desires" category included "Romance possibilities", "Romantic relations", "Sex", "Attraction", and "Flirtatious exchanges". Some of these nominations, such as "Sex", imply a mutual attraction between friends, but others, such as "Attraction", were common and can be read to imply attraction *to* one's friend, attraction *from* one's friend, or *mutual* attraction. Similarly, typical cost nominations falling into the "attraction and mating desires" category included "Usually end up sleeping together", "Sexual

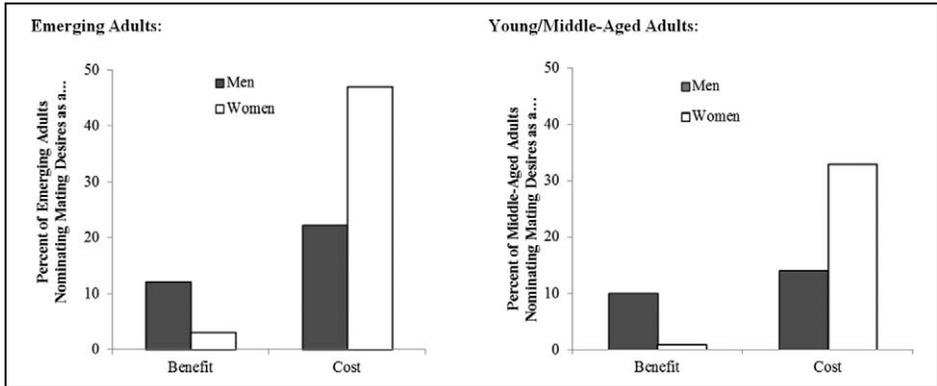


Figure 5. Study 2: Percentage of emerging adults and young and middle-aged adults to nominate attraction/mating desires as a benefit or cost of cross-sex friendships.

tension”, “Risk of attraction from either member”, and “Can get complicated with mutual or non-mutual attraction”. These nominations suggest that our participants felt that attraction either *to* a friend or *from* a friend could be costly, and so could *mutual* attraction. Perhaps attraction leaves the emotional status of the friendship in question or destabilizes current romantic relationships.

Our second prediction, under the rationale that attraction confuses or derails purportedly non-romantic alliances between the sexes, was that men and women would nominate attraction more often as a cost than as a benefit of cross-sex friendship. This prediction was confirmed. Across age and sex, attraction and mating desires were mentioned as a cost or complication of opposite-sex friendship by 32% of participants – five times more often than they were mentioned as a benefit or enhancement (6% of participants), $\chi^2(1) = 6.54$, McNemar $p < .001$.

Prediction 3: Men perceive attraction as a benefit more often than women do.

Prediction 3, that men would nominate sexual attraction and mating desires as a benefit of cross-sex friendships more often than women would, was confirmed. Across age group, men nominated sexual attraction and mating desires more often than women did, $\chi^2(1) = 8.61$, $p = .003$, Cramer’s $V = .19$. This pattern held in each age group. As displayed in Figure 5, 12% of emerging adult males nominated sexual attraction and mating desires as a benefit of opposite-sex friendships, whereas only 3% of emerging adult females did, $\chi^2(1) = 3.25$, $p = .07$, Cramer’s $V = .17$. Similarly, as shown in Figure 5, 10% of middle-aged males, compared to just 1% of middle-aged females, nominated sexual attraction and mating desires as a benefit of opposite-sex friendships, $\chi^2(1) = 5.58$, $p = .02$, Cramer’s $V = .21$.

Figure 5 also shows that men nominated sexual attraction and mating desires as a cost of opposite-sex friendships *less* often than women did. As shown in the figure, 22% of emerging adult males nominated sexual attraction and mating desires as a cost of opposite-sex friendships, whereas 47% of emerging adult females did, $\chi^2(1) = 6.37$, $p = .01$, Cramer’s $V = .25$. In a similar pattern, 14% of middle-aged males, compared

Table 5. Study 2: Links between attraction to cross-sex friend and (dis)satisfaction with current romantic partner

	Degree of romantic attraction toward friend	Importance of attraction for maintaining the friendship	Satisfaction in current romantic relationship
Degree of romantic attraction toward friend	—	.70** .83**	.49* -.37*
Importance of attraction for maintaining the friendship	.84** .74**	—	.15 -.38*
Satisfaction in current romantic relationship	-.46** -.25*	-.39** -.31**	—

Note. Correlation coefficients for emerging adults are above the main diagonal; coefficients for young and middle-aged adults are below the main diagonal. In each cell, coefficients in the top row are for males and in the bottom row for females.

to 33% of middle-aged females, nominated sexual attraction and mating desires as a cost of opposite-sex friendships, $\chi^2(1) = 4.47, p = .03$, Cramer's $V = .21$.

Prediction 4: Involved people perceive attraction as a cost more often than single people do.

Contrary to our final prediction, nominations of attraction as a cost did not differ by relationship involvement. Both within and across age groups, participants who were currently in a serious relationship were no more likely than single participants to mention attraction and mating desires as a cost (Across age $\chi^2(1) = 0.16, p = .69$; Emerging adults $\chi^2(1) = 0.67, p = .41$; Middle-aged adults $\chi^2(1) = 0.08, p = .78$). For example, across age, 31% of seriously involved participants and 34% of single participants mentioned mating desires as a cost. Also contrary to expectation, young and middle-aged adults, the majority of whom were married, were not significantly more likely than emerging adults to nominate mating desires and attraction as a cost; in fact, they were marginally *less* likely to nominate it as a cost (26% vs. 38%), $\chi^2(1) = 2.97, p = .09$, Cramer's $V = .12$. Chi-square analyses showed also that attraction was nominated as a benefit with similar rarity among seriously involved and single participants alike (Across age $\chi^2(1) = 0.99, p = .32$; Emerging adults $\chi^2(1) = 1.83, p = .18$; Young and middle-aged adults $\chi^2(1) = 0.71, p = .40$). For example, looking across age, 5% of seriously involved participants and 7% of single participants mentioned attraction or mating desires as a benefit of cross-sex friendship.

To investigate the possibility that attraction and mating desires were nominated as costs far more often than as benefits because they interfere with men's and women's current relationships, we probed links between relationship perceptions and attraction to friend. We found that, particularly among young and middle-aged participants, feelings of attraction for a cross-sex friend were tied to lower levels of satisfaction with one's current romantic partner (i.e., spouse). As displayed in Table 5, young and middle-aged adult males and females, as well as emerging adult females, who experienced stronger levels of attraction to their cross-sex friend reported lower levels of satisfaction in their current romantic relationship and rated attraction as a more important reason for maintaining their

cross-sex friendship. It also is possible that dissatisfaction in a romantic relationship leads to increased involvement with or attraction to an opposite-sex friend. Regardless of the causal arrow, if our links between attraction to cross-sex friends and dissatisfaction with one's partner mirror reality, they imply that men's and women's cross-sex friendships should be accompanied by jealousy on behalf of their romantic partners. In fact, as shown in Table 4, nearly one-third of middle aged adults (25% of men, 38% of women) mentioned jealousy from their romantic partner as a cost of cross-sex friendship.

Discussion

In summary, Study 2 offered support for the hypothesis that experiences in cross-sex friendship correspond to age differences in likelihood of being actively engaged in mate search. Young and middle-aged adults generally reported less attraction to their cross-sex friends than emerging adults did, but those age differences disappeared among single participants. Single men across age groups reported relatively high levels of attraction to their cross-sex friend, and single women across age groups reported moderate levels of attraction to their cross-sex friend.

Taken across relationship status, middle-aged women reported less attraction to their male friends than younger women did ($d = -0.55$), and middle-aged men reported much less attraction to their female friends than younger men did ($d = -0.87$). The effect of age on attraction, in other words, was stronger for men than for women (see Figure 4), so much so that middle-aged men and women did not differ significantly in attraction to their cross-sex friend (independent samples $t(127) = 1.05, p = .30, d = 0.19$). Perhaps this large effect of age on men's attraction levels is a function of the age of men's friends. Men's mate preferences include a preference for younger women (Buss, 1989; Kenrick & Keefe, 1992); if men and women have cross-sex friends who are about their age, and women's reproductive value and desirability decreases with age, then men of increasing age should report less attraction to their cross-sex friends. However, to the extent that men's mating strategies may influence who they initiate and develop cross-sex friendships with, we might expect that men of increasing age should report increasingly younger cross-sex friends. Unfortunately, in Study 2 we did not ask men and women the age of the cross-sex friend on whom they reported. Future work could investigate whether middle-aged men's attraction to their cross-sex friend is tied to their friend's age.

Study 2 also provided some support for the proposal that men's and women's conscious intentions to engage in platonic alliances with the opposite sex may sometimes be disrupted by core mating desires. Participants in both age groups spontaneously mentioned attraction in friendship more often as a cost than as a benefit. Fully 22% of emerging adult men and 47% of emerging adult women spontaneously brought up phrases alluding to sexual, physical, or romantic attraction as complications of cross-sex friendships. Men and women in the older sample also frequently mentioned attraction in the friendship and jealousy from their romantic partner as costs of maintaining friendships with the opposite sex. Future research could determine whether men and women respond differently to different types of attraction. For example, do people perceive asymmetric attraction between friends as more costly than mutual attraction? The answer

might depend on whether the friends are already involved in a serious romantic relationship with someone else. How men and women handle asymmetric attraction, too, might depend on whether they are the target of another's attraction or the actor experiencing it toward their friend.

Contrary to expectation, Study 2 participants did not nominate attraction as a cost of cross-sex friendship more often than single participants did. Perhaps this is because involved people reported far less attraction ($M = 3.26$, $SD = 2.38$) to their specific cross-sex friend than single people did ($M = 5.31$, $SD = 2.57$), $t(234) = -6.10$, $p < .001$, $d = -0.80$. If attraction is not strong, it is less likely to interfere with the friendship and also less likely to interfere with one's current relationship. It is possible that the involved men and women in our sample had less desirable cross-sex friends, but it seems more likely that involved men and women were derogating desirable alternatives in the service of maintaining their current romantic relationship (Maner, Gailliot, & Miller, 2009; Plant, Kuntsman, & Maner, 2010; Simpson, Gangestad, & Lerma, 1990). Our participants did seem to have some awareness of the potential dangers of being attracted to friends: those who nominated mating desires as a cost of cross-sex friendship were more attracted to the specific friend they reported on ($M = 4.81$, $SD = 2.52$) than were those who did not nominate attraction as a cost ($M = 3.86$, $SD = 2.64$), $t(192) = 2.38$, $p = .02$, $d = 0.34$. And, as noted above, middle-aged men and women (and younger women) who reported more attraction to their friend also reported less satisfaction in their current romantic relationship.

A unique strength of Study 2 is our inclusion of middle-aged men and women from the broader community. Despite substantial evidence that friendships in general are highly valued throughout the lifespan and are strongly tied to happiness in both early adulthood (Demir & Weitekamp, 2007) and old age (Larson, Mannell, & Zuzanek, 1986), little is known about *cross-sex* friendships in *middle adulthood* (Monsour, 2002). The benefit nominations from our young and middle-aged adults reinforce the notion that cross-sex friendships provide a variety of benefits for men and women of varied ages. Table 3 shows that some of the most commonly mentioned benefits of cross-sex friendship across age groups included companionship and shared activities; emotional, physical, and financial support; conversation and advice; and perspectives on the opposite sex. One benefit that was mentioned more frequently among middle-aged adults (16% of men, 19% of women) than among emerging adults (7% of men, 2% of women) was that cross-sex friends boosted participants' confidence and self-esteem. We wonder if this finding could be linked to attraction. If cross-sex friends are perceived, at some level, as potential romantic partners, perhaps having a cross-sex friendship provides men and women with affirmation of their value as a potential mate.

General discussion

The current studies were designed to test the general proposal that men's and women's experiences in cross-sex friendship are influenced by their evolved mating strategies. This proposal carries two assumptions: first, cross-sex friendships of the kind we typically see in society are a historically recent phenomenon; and second, men and women possess evolved mating strategies. Under the logic of these two assumptions,

men's and women's mating strategies are triggered when men and women interact with members of the opposite sex who, over evolutionary history, would have been potential mates. Thus, mating strategies may influence people's involvement in cross-sex friendships to begin with as well as unintentionally color people's feelings toward members of the opposite sex with whom their conscious intent is platonic.

We generated several predictions about how men's and women's mating strategies would play out in their reports of attraction to cross-sex friends and in their nominations of attraction as either a cost or a benefit of friendship. For example, evidence that men have a strong desire for short-term sexual opportunities (e.g., Schmitt, 2005) led us to predict that young men would experience stronger attraction toward their cross-sex friends than would women, and that men's attraction to their female friends would be relatively strong regardless of their current romantic relationship status. Given the dominance of *long-term* mating effort among women, we predicted that women's perceptions of their cross-sex friends would hinge on their current romantic relationship status. We also proposed that if evolved mating strategies are activated naturally in the context of opposite-sex others, and thus are often unplanned or wanted, then men and women would perceive attraction as a cost of friendship more than as a benefit. These predictions were supported by the data.

Taken together, our findings support O'Meara's (1989) original thesis that cross-sex friends face the challenge of addressing sexuality in their relationship. As in previous research (e.g., Kaplan & Keys, 1996; Reeder, 2000), men and women in our samples experienced weak to moderate levels of romantic attraction toward their cross-sex friends. The magnitude of that attraction was stronger for men and for emerging adults. Moreover, feeling attracted to a cross-sex friend was associated with lower levels of satisfaction with one's romantic relationship (particularly among middle-aged adults who were likely to be married). Further, participants of varying ages nominated jealousy from their romantic partner as a primary cost of maintaining cross-sex friendships. On the one hand, then, attraction on behalf of one or both cross-sex friends may have negative repercussions on both the friendship and, if the individuals are currently involved, their romantic relationships. On the other hand, some men and women in our samples perceived attraction as a benefit of having cross-sex friends. Perhaps attraction can be both benefit and burden for the same individual in different friendships, or be both benefit and burden for the same friendship at different points in time.

Strengths and weaknesses of the current research

One strength of the current series of studies is that we acquired self-report data in a variety of formats. We asked explicitly about attraction in Studies 1 and 2. We garnered both partners' perspectives in Study 1, which is uncommon in cross-sex friendship research (but see Koenig et al., 2007, for an exception); we also relied on participants' spontaneous responses, through an act nomination procedure, in Study 2. The findings across the two studies converged on attraction and mating as key issues in cross-sex friendship.

However, we recognize that self-report data are subject to participants' biased perceptions of their experiences. For example, our use of friendship pairs in Study 1 revealed that even men and women who are talking about the exact same friendship can

have different interpretations of their friendships and of each other. Male and female friends were not entirely correct in their judgments of each other's current romantic relationship status. Perhaps this lack of perfect consensus should be considered informative rather than random noise, particularly given men's and women's differing mating strategies (Buss & Schmitt, 1993; Gangestad & Simpson, 2000) and definitions of intimacy (Monsour, 1992). Regardless, daily diaries or experience sampling would provide real time data on the contexts in which attraction is heightened or acted upon, the frequency with which men and women respond positively or negatively to feeling attraction toward a friend or being the recipient of attraction from a friend, and the immediate consequences of acting upon such attraction.

Another strength of the current research is that it includes an initial, close look at men's and women's cross-sex friendships in young and middle adulthood. We know of no other research probing middle-aged adults' feelings about their cross-sex friends. The data we report here are limited, however. One potential issue is response bias, because men and women who are interested in friendship or who reflect more on their friendships may have been more likely to respond. A second issue is that the data are cross-sectional. In that regard, the negative association between attraction to one's cross-sex friend and current romantic relationship satisfaction is impossible to interpret. There are multiple, potentially overlapping, possibilities. Perhaps men and women who are dissatisfied in their romantic relationships increasingly turn to their cross-sex friends or develop new cross-sex friendships. Perhaps attraction to a cross-sex friend leads to dissatisfaction with one's romantic relationship. Or perhaps men and women with certain dispositions, such as high levels of novelty seeking, are likely to both pursue cross-sex friends and grow dissatisfied with their long-term mateships. A longitudinal study that details men's and women's romantic relationships as well as their cross-sex friendships is necessary to disentangle these multiple explanations.

Theoretical accounts of attraction

As noted earlier, different researchers have offered different explanations for the persistent finding of attraction between cross-sex friends. We think it is likely that attraction is a combined product of cultural expectations, core mating drives, and a variety of other factors such as personality and unique life history. In the current research, we have focused on testing predictions pertaining specifically to the hypothesis that men's and women's experiences in cross-sex friendship are in part a byproduct of their evolved mating strategies. Future research could utilize different participant populations to test the byproduct hypothesis. For example, if mating strategies impinge on heterosexual men's and women's experiences in cross-sex friendship, then they should also impinge on homosexual men's and women's experiences in same-sex friendship. Research suggests that homosexuals have mate preferences and strategies that generally parallel those of their heterosexual counterparts; it is the sex of their desired partner that differs (Kenrick, Keefe, Bryan, Barr, & Brown, 1995). Thus, homosexual men and women should experience attraction to their (purportedly platonic) same-sex friends. Moreover, given men's stronger short-term mating orientation, homosexual men should feel

more attraction to their same-sex friends than homosexual women should to their same-sex friends.

Another direction for future tests of the byproduct hypothesis might involve comparison of cross-sex friends who have known each other since early childhood with cross-sex friends who meet during adolescence or beyond. Co-residence with a member of the opposite sex in early childhood is a cue of kinship and downgrades sexual motives toward that person (Lieberman, Tooby, & Cosmides, 2007). Thus, male and female dyads who have been friends since early childhood might be expected to experience less attraction to one another over the course of their friendship relative to those who met in early adolescence or beyond.

Conclusion

In conclusion, we conducted two studies to determine the degree to which men and women experience romantic attraction in their cross-sex friendships and the frequency with which they perceive attraction as a benefit as opposed to a cost of being involved in cross-sex friendships. Our findings offer preliminary support for the proposal that men's and women's experiences in cross-sex friendship reflect their evolved mating strategies. Attraction between cross-sex friends is common, and it is perceived more often as a burden than as a benefit. We hope that other close relationships researchers will pursue focused research on precursors and consequences of attraction between friends over the life course.

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