



## Friends with benefits II: Mating activation in opposite-sex friendships as a function of sociosexual orientation and relationship status

David M.G. Lewis\*, Laith Al-Shawaf, Daniel Conroy-Beam, Kelly Asao, David M. Buss

The University of Texas at Austin, TX 78712, USA

### ARTICLE INFO

#### Article history:

Received 17 February 2012  
Received in revised form 27 April 2012  
Accepted 29 April 2012  
Available online 3 June 2012

#### Keywords:

Friendship  
Evolutionary psychology  
Social partner preferences  
Budget allocation method  
Sex differences  
Adaptive individual differences

### ABSTRACT

In selecting opposite-sex friends (OSFs), men prioritize physical attractiveness, whereas women prioritize physical prowess and economic resources. This parallel with mate preferences suggests mating mechanisms may partially drive OSF preferences. Selection would have favored activation of mating mechanisms when the probabilistic net benefits of pursuing a mating strategy with OSFs exceeded those associated with alternative strategies, such as platonic friendship. During human evolution, individual differences in sociosexual orientation and relationship status may have been recurrently linked to greater net benefits of pursuing a mating strategy with OSFs. We hypothesized these individual differences would predict individuals' prioritization in their OSFs of traits desired in mates. Participants ( $N = 167$ ) allocated "friend dollars" to design their ideal OSFs. Sex, sociosexual orientation, and relationship status predicted OSF preferences. Replicating previous research, men placed greater value than women on their OSFs' physical attractiveness. Independent of sex, however, an unrestricted sociosexual orientation predicted prioritizing OSFs' physical attractiveness. Sociosexual orientation also interacted with sex; among women, an unrestricted orientation predicted greater valuation of OSFs' physical prowess. Results suggest mating motivations in opposite-sex friendship depend on interactions between sex, personality, and relationship status.

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### 1. Introduction

Preferences for opposite-sex friends (OSFs) and the ontogenetic trajectory of such friendships suggest that mating psychology plays a crucial role in opposite-sex friendship. Before individuals enter reproductive age, opposite-sex friendships are rare – only one in seven children has an OSF (Kovacs, Parker, & Hoffman, 1996). However, the incidence of opposite-sex friendship increases as individuals reach reproductive maturity (Kuttler, Greca, & Prinstein, 1999) and both sexes report short-term and long-term mating with OSFs (Bleske & Buss, 2000). The current study applies an evolutionary psychological framework to investigate individual differences that may activate mating psychology in opposite-sex friendships.

Recent research suggests mating psychology may partially drive OSF preferences. Lewis and colleagues (2011) gave participants limited budgets of "friend dollars" to design their ideal same-sex friends (SSFs) and OSFs across six domains of evolutionarily rele-

vant characteristics: physical attractiveness, economic resources, physical prowess, family care, social intelligence, and personality. In their SSFs, men and women prioritized personality and social intelligence, and exhibited no sex differences in their valuation of the six characteristics. In their OSFs, however, men placed greater value on physical attractiveness, whereas women placed greater value on economic resources and physical prowess (Lewis et al., 2011). These sex-differentiated OSF preferences parallel sex differences in mate preferences (e.g., Buss & Schmitt, 1993; Li, Bailey, Kenrick, & Linsenmeier, 2002; Li & Kenrick, 2006). One potential explanation for the similarity between OSF and mate preferences is that although individuals sometimes seek OSFs to serve functions similar to those of SSFs, under other conditions, they may seek OSFs as potential mates.

During human evolution, pursuing a mating strategy with OSFs could have had fitness benefits as well as fitness costs. It could have led to the formation of new long-term mateships, as well as to extra-pair copulations and other short-term sexual relationships. However, it could also have resulted in the loss of one's current mate; retaliatory affairs; retaliation by the OSF's mate, kin, or allies; direct retaliation by the OSF (e.g., the divulgence of private information); other forms of reputational damage; and the loss of a platonic friendship (Bleske & Buss, 2000, 2001; Buss & Duntley, 2011; Greiling & Buss, 2000).

\* Corresponding author. Address: Psychology Department, The University of Texas at Austin, 1 University Station A8000, Austin, TX 78712, USA. Tel.: +1 512 964 9917; fax: +1 512 471 5935.

E-mail address: [david.lewis@mail.utexas.edu](mailto:david.lewis@mail.utexas.edu) (D.M.G. Lewis).

Selection would have favored the activation of mating mechanisms only under conditions in which the net benefits of pursuing a mating strategy with an OSF were recurrently greater than those associated with alternative strategies, such as platonic friendship. Moreover, selection would have favored mating mechanisms whose activation was sensitive to individual differences linked to reaping greater net fitness benefits from pursuing a mating strategy with OSFs. The current study expands on recent research by advancing and testing the *mating activation hypothesis*: OSF preferences will vary as a function of sociosexual orientation and relationship status, individual differences hypothesized to influence the activation of mating mechanisms in opposite-sex friendship.

### 1.1. Sociosexual orientation

Differences in ancestral individuals' mating strategy may have influenced the costs and benefits of pursuing mating opportunities with OSFs. Sociosexual orientation describes an individual's attitudinal, behavioral, and cognitive inclinations toward commitment-free sex (Penke & Asendorpf, 2008; Simpson & Gangestad, 1991). An unrestricted orientation is characterized by an inclination toward sex without emotional commitment, whereas a restricted orientation is characterized by a preference for committed, long-term mating (Penke & Asendorpf, 2008). Because unrestricted individuals possess attributes linked to success in short-term mating, such as lower fluctuating asymmetry (Thornhill & Gangestad, 1994), they may have been more successful in attempts to mate with OSFs. Consistent with this proposition, unrestricted individuals report more short-term sex partners (Penke & Asendorpf, 2008; Simpson & Gangestad, 1991).

In addition to reaping greater benefits from pursuing OSFs as mates, unrestricted individuals may have incurred fewer costs. Directing energetic, temporal, and economic resources toward solving one adaptive problem makes those resources unavailable for solving other adaptive problems (Gadgil & Bossert, 1970). The optimal solution to this tradeoff may differ across individuals (e.g., Alcock, 2009), including as a function of sociosexual orientation. Pursuing a mating strategy with OSFs may have been less costly for unrestricted individuals; uncommitted mating requires less investment than long-term mating. Although attempting to short-term mate with an OSF could have introduced potential costs (such as when an OSF sought long-term commitment and possessed personal information to use as leverage), the fact that, on average, unrestricted individuals would have incurred fewer energetic, temporal, and resource costs suggests that pursuing a mating strategy with OSFs would have been less costly for these individuals. Given these sociosexual orientation-based differences in the net benefits of directing mating effort toward OSFs, the mating activation hypothesis predicts that unrestricted individuals should experience greater mating activation in the context of opposite-sex friendship than restricted individuals.

### 1.2. Relationship status

Relationship status is another individual difference that would have affected the costs and benefits of pursuing mating opportunities with OSFs. Individuals in committed mateships benefit from exclusive access to their mates' reproductively relevant resources (Buss, 2003). Extra-pair mating would have put mated individuals at risk for losing their mates, retaliatory affairs, and retaliation by their mates' kin or allies, as well as increased jealousy and mate-guarding by their mates (Buss & Duntley, 2011; Burchell & Ward, 2011; Greiling & Buss, 2000).

Because these costs were nonexistent for unmated individuals, but the benefits of pursuing mating opportunities with OSFs would have been at least as high, unmated individuals would have de-

rived greater net benefits from pursuing a mating strategy with OSFs. We thus hypothesized that unmated individuals should experience greater mating activation in the context of opposite-sex friendship.

### 1.3. Sex

Because sex-linked adaptive problems selected for sex-differentiated mate preferences (Buss & Schmitt, 1993), we would expect mating activation to be associated with sex-differentiated shifts in OSF preferences. Women, relative to men, prioritize in both their mates (e.g., Buss & Schmitt, 1993) and OSFs (Bleske & Buss, 2000, 2001; Lewis et al., 2011) attributes associated with the ability to provide physical protection and economic resources, whereas men prioritize characteristics associated with fertility and reproductive value. Thus, consistent with previous research, we expected men to place greater value than women on the physical attractiveness of OSFs, and women to place greater value on OSFs' economic resources and physical prowess.

### 1.4. Individual differences in OSF preferences

The present study examined how sociosexual orientation, relationship status, and sex influenced OSF preferences. We hypothesized that being unrestricted and unmated would be associated with greater mating activation toward OSFs, and would thus predict the prioritization of traits in OSFs known to be desired in mates.

The current study represents an initial investigation into mating activation in opposite-sex friendships as a function of individual differences. Because physical attractiveness, economic resources, and physical prowess are valued in both short-term and long-term mates (although in sex-differentiated ways; Buss & Schmitt, 1993), we construed these traits as desirable in mates broadly. Because men and women differentially value these characteristics in mates, the specific domains of attributes in which sociosexual orientation and relationship status should shift OSF preferences should be sex-dependent.

Specifically, because unrestricted individuals are inclined toward short-term mating, and both men and women place greater value on physical attractiveness in short-term mating contexts (e.g., Buss & Schmitt, 1993; Li & Kenrick, 2006), we predicted that an unrestricted orientation would be associated with greater valuation of OSFs' physical attractiveness among both men and women. Also, because short-term mating women prefer more muscular partners (Buss & Schmitt, 1993, p. 222; Frederick & Haselton, 2007), we predicted that, among women, an unrestricted orientation would predict greater valuation of OSFs' physical prowess. Finally, because women favor a long-term mating strategy and prioritize their long-term mates' economic resources (Buss & Schmitt, 1993), we predicted that unmated women would place greater value on their OSFs' economic resources.

We measured OSF preferences using a budget allocation paradigm in which individuals designed their ideal OSFs by allocating fixed budgets of friend dollars to different domains of characteristics. This method strategically constrains preferences to determine which characteristics individuals prioritize when limitations consistent with the real world are imposed. The limits of one's own desirability as a friend and of the eligible friend pool make it such that people cannot actually form friendships with their ideal partners, and must therefore prioritize certain characteristics over others. In the budget allocation task, constrained budgets force individuals to make trade-offs for characteristics of greatest priority (Li et al., 2002).

## 2. Method

### 2.1. Participants

One hundred sixty-seven students (119 women) enrolled in an introductory psychology course at a large, public university in the southwestern United States participated. The sample was 59% Caucasian, 15% Asian, 14% Hispanic, and 11% African American. Thirty-six participants were currently mated (described as in an “exclusive relationship” or “married”). Participants provided informed consent before completing the study on the Qualtrics online server and received partial course credit.

### 2.2. Questionnaire and procedure

#### 2.2.1. Sociosexual orientation

Participants completed the Revised Sociosexuality Orientation Inventory (SOI-R, Penke & Asendorpf, 2008). The SOI-R is a nine-item questionnaire assessing individuals' history of, attitudes about, and desire for uncommitted sex. Sample items include “I do not want to have sex with a person until I am sure that we will have a long-term, serious relationship” and “I can imagine myself being comfortable and enjoying ‘casual’ sex with different partners.” Items are scored on a five-point scale and summed to form a composite SOI-R score. Higher SOI-R scores reflect a more unrestricted orientation.

#### 2.2.2. Budget allocation task

Following a procedure similar to that outlined by Lewis et al. (2011), an act nomination (Buss & Craik, 1983) was used to create domains of characteristics relevant to solving ancestral adaptive problems. Eight undergraduate research assistants blind to the study hypotheses listed as many traits and skills as possible pertaining to six domains of characteristics: Physical Attractiveness, Physical Prowess, Social Intelligence, Family Care, Personality, and Economic Resource Status (ERS). Items were nominated for a particular domain if they facilitated the solution of adaptive problems in that domain. High Physical Attractiveness reflects physical attractiveness to the opposite sex; high Physical Prowess reflects good fighting and hunting skills, and the ability to provide physical protection; high Social Intelligence refers to skill at navigating social relationships and the ability to access important social information; high Family Care reflects adeptness at solving child rearing and food gathering problems; high Personality refers to altruism and cooperativeness; and high ERS reflects possessing resources and the ability to acquire future resources. This procedure resulted in a total of 257 characteristics across the six domains. To create representative scales for each domain, we had an independent sample rate the degree to which the characteristics described their friends, and conducted reliability analyses on these ratings. We created 10-item scales for each domain using those items with the highest corrected item-total correlations within each domain (Appendix A). All scales exhibited satisfactory internal consistency (all  $\alpha$ s  $\geq$  .77).

Participants were presented with the six scales and instructed to design their ideal OSFs by allocating limited budgets of friend dollars to the different domains of characteristics. The instructions explained that each dollar allocated to a specific domain for a friend was associated with a 10% increase in that characteristic in that friend relative to the friend's same-sex peers. For example, a female participant who allocated \$7 to an OSF's Physical Prowess would obtain a male friend who was stronger than 70% of his same-sex peers. Participants were presented with sequentially increasing budgets (\$12, \$24, and \$36 – order held constant across

participants), and sliding scales (minimum: 0, maximum: 10) to indicate how many dollars to allocate to each domain.

## 3. Results

### 3.1. Replication: sex differences

Analyses were first conducted to replicate previous findings that men place greater value on their OSFs' physical attractiveness, whereas women place greater value on their OSFs' economic resources and physical prowess (Lewis et al., 2011).  $2 \times 3$  ANOVAs were conducted for each domain, with participant sex as a between-subject factor and budget level as a within-subject factor. Results at each budget level are reported in brackets.

Men allocated significantly more than women to their OSFs' Physical Attractiveness,  $F(1,165) = 34.09$ ,  $p < .001$ ,  $\eta_p^2 = .17$  [\$12:  $t(61.76) = 4.74$ ,  $p < .001$ , \$24:  $t(66.4) = 4.86$ ,  $p < .001$ , \$36,  $t(77.23) = 4.05$ ,  $p < .001$ ]. Women, on the other hand, allocated significantly more than men to their OSFs' economic resources,  $F(1,165) = 36.96$ ,  $p = .01$ ,  $\eta_p^2 = .04$  [\$12:  $t(165) = -2.54$ ,  $p = .01$ , \$24:  $t(165) = -2.15$ ,  $p = .03$ , \$36:  $t(165) = -2.12$ ,  $p = .03$ ], and Physical Prowess,  $F(1,165) = 34.946$ ,  $p < .001$ ,  $\eta_p^2 = .17$  [\$12:  $t(165) = -3.00$ ,  $p = .003$ , \$24:  $t(165) = -5.36$ ,  $p < .001$ , \$36:  $t(165) = -6.71$ ,  $p < .001$ ] (Fig. 1).

### 3.2. Sociosexual orientation and relationship status

Next, analyses were conducted to explore individual differences in OSF preferences as a function of sociosexual orientation and relationship status. We conducted backward stepwise regression analyses to explore the main effects of, and interactions between, sociosexual orientation, relationship status, and sex. Participants' mean expenditures on each domain across budgets served as dependent variables.

Sociosexual orientation interacted with sex to predict expenditure on OSFs' Physical Prowess,  $\beta = 0.94$ ,  $t(163) = 2.47$ ,  $p = 0.01$ . An unrestricted sociosexual orientation predicted greater expenditure on Physical Prowess among women, whereas an unrestricted orientation was associated with decreased expenditure on Physical Prowess among men (Fig. 2). Model-generated predicted values indicated that unrestricted women spent more than any other participants on their OSFs' Physical Prowess.

Sociosexual orientation also had a main effect on Physical Attractiveness expenditure,  $\beta = 0.18$ ,  $t(164) = 2.49$ ,  $p = 0.01$ . More unrestricted individuals spent more on their OSFs' Physical Attractiveness (Fig. 1). This effect of sociosexual orientation was not sex-differentiated, but sex, too, had a main effect on Physical Attractiveness expenditure,  $\beta = -1.22$ ,  $t(164) = -4.732$ ,  $p < 0.001$ . Model-generated predicted values indicated that among all participants, unrestricted men spent the most on OSFs' Physical Attractiveness (Fig. 1).

Relationship status also interacted with sex to predict expenditure on OSFs' Economic Resource Status,  $\beta = 1.45$ ,  $t(163) = 2.33$ ,  $p = 0.02$ . Being mated predicted increased expenditure on OSFs' economic resources among women, whereas among men being mated predicted lower expenditure on OSFs' resources.

## 4. Discussion

Results replicate recent findings of sex differences in OSF preferences (Lewis et al., 2011). More importantly, study results provide support for the novel hypothesis that individual differences in sociosexual orientation and relationship status are associated with differential activation of mating mechanisms in the context of opposite-sex friendship.

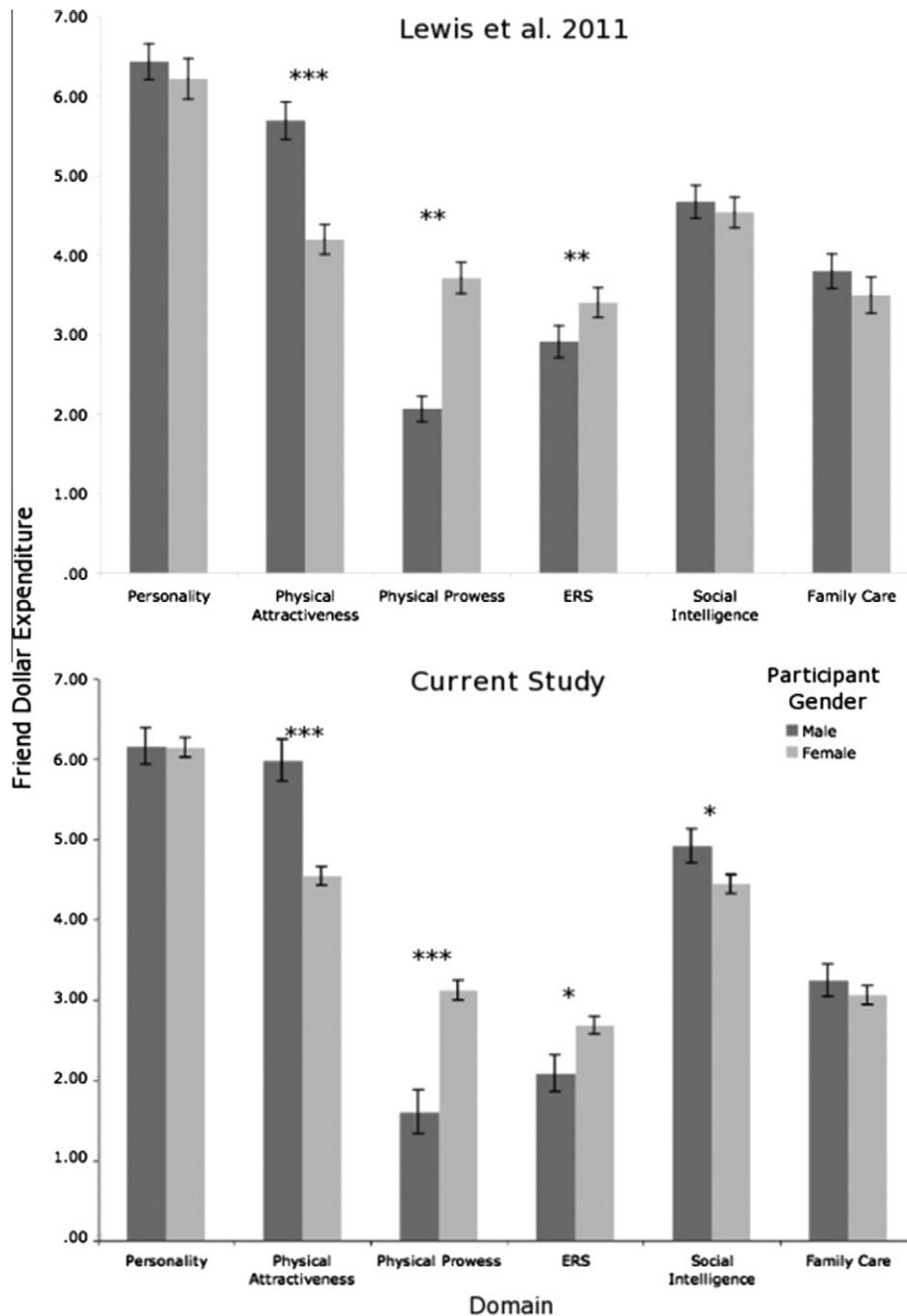


Fig. 1. Male and female participants' mean friend dollar expenditure on opposite-sex friends (OSFs) by domain. Bars represent  $M + (SE)$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

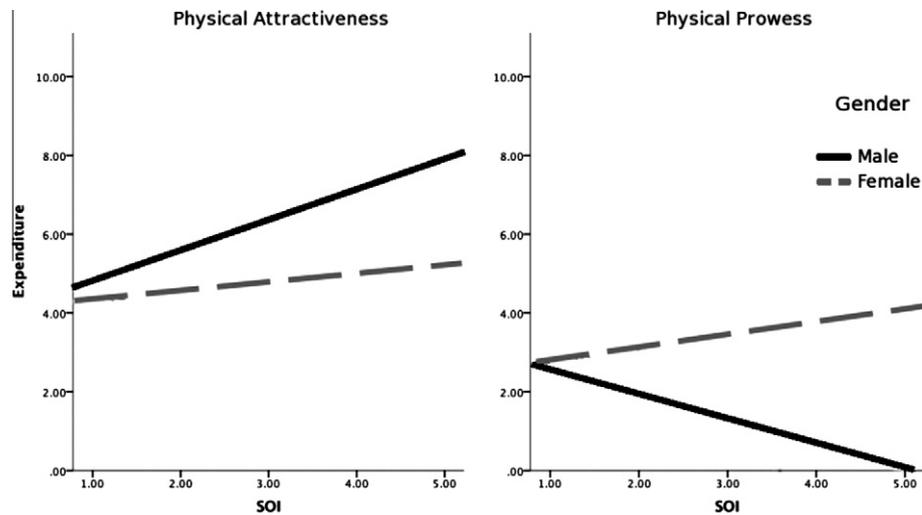
#### 4.1. Individual differences in OSF preferences

Replicating previous research, we found sex differences in OSF preferences that align with sex-linked adaptive problems. Moreover, although we used the same six domains as Lewis et al. (2011), the 10-item scales were different from those used by Lewis and colleagues. The replication of the preference findings across studies using different constituent items for each domain suggests that the domains are non-arbitrary and map onto real, adaptively relevant trait dimensions.

In addition to replicating previous findings, we also discovered that interactions between sex, sociosexual orientation, and relationship status predicted OSF preferences. As in Lewis et al. (2011), men placed a greater premium than did women on OSFs'

physical attractiveness. Independent of sex, however, a more unrestricted sociosexual orientation predicted greater valuation of physical attractiveness, a characteristic both sexes value in mates (Buss & Schmitt, 1993; Li et al., 2002), particularly in short-term contexts (Li & Kenrick, 2006).

The interaction between sex and sociosexual orientation in predicting expenditure on OSFs' physical prowess is also consistent with the mating activation hypothesis. Whereas an unrestricted orientation was associated with decreased valuation of OSFs' physical prowess among men, among women an unrestricted orientation was associated with greater valuation of physical prowess, a characteristic women highly value in mates, particularly in short-term contexts (Buss & Schmitt, 1993; Frederick & Haselton, 2007). These findings are consistent with the hypothesis that



**Fig. 2.** Sociosexual orientation (SOI), sex, and expenditure on OSFs' physical attractiveness and physical prowess. Lines represent model-generated predicted values of men's and women's expenditure on their OSFs' physical attractiveness and physical prowess. Among women (right), a more unrestricted orientation predicted greater expenditure on OSFs' physical prowess, whereas a more unrestricted orientation predicted lower expenditure on OSFs' physical prowess among men. A more unrestricted orientation also predicted greater expenditure on OSFs' physical attractiveness, independent of sex (left).

sociosexual orientation is an important input into psychological mechanisms motivating mating in the context of opposite-sex friendship. However, the physical prowess findings are also consistent with alternative interpretations. Unrestricted women have more sex partners than their restricted counterparts (Penke & Asendorpf, 2008; Simpson & Gangestad, 1991), placing them at greater risk for sexual exploitation or assault (Buss & Duntley, 2008; Goetz, Easton, Lewis, & Buss, in press; Lewis, Easton, Goetz, & Buss, 2012). Unrestricted women may thus derive greater benefit from formidable OSFs who can offer protection. Future research should aim to disentangle these explanations, which may both partly account for the influence of sociosexual orientation on desire for physical prowess in OSFs.

Although the sex-differentiated effects of relationship status were in the opposite direction of that predicted, they may shed new light on women's OSF psychology. Women spent more than men on their OSFs' economic resources, paralleling sex differences in mate preferences (e.g., Buss & Schmitt, 1993). However, among women, being unmated predicted reduced valuation of economic resources, paralleling women's decreased emphasis on economic resources in short-term mating (Li & Kenrick, 2006). Because most women favor long-term mating over short-term mating (Buss, 2003; Buss & Schmitt, 1993; Schmitt, Shackelford, & Buss, 2001), and because a sexual affair could jeopardize a long-term mateship, when a woman is mated, her threshold for engaging in short-term mating is likely higher. Unmated women may thus experience greater activation of short-term mating mechanisms that leads them to trade off economic resources for characteristics valued in short-term mates.

Collectively, study data suggest that the mechanisms responsible for OSF preferences depend not solely on sex-linked adaptive problems and consequent sex differences in mate preferences, but on interactions between sex, personality characteristics, and relationship status.

#### 4.2. Limitations

The use of fixed budgets and questionnaire-based assessment of OSF preferences enabled us to standardize the study across participants and impose constraints consistent with the real-world friend market, but these methods have limitations. First, differences among individuals in their own desirability on the friend market

likely influence the degree to which they can form friendships with their ideal partners. Second, mating behavior is the behavioral output produced when psychological mechanisms respond to real-life relationships. To better understand the link between OSF preferences and actual mating behavior in opposite-sex friendships, future work should measure variables more proximate to actual attempts to mate with OSFs. Assessing individuals' physiological arousal, endocrinological shifts, or reported likelihood of attempting to mate with an OSF may provide insight into the behavioral output of these preferences (Ariely & Loewenstein, 2006).

Because the study did not measure the differential activation of short- and long-term mating psychology, the findings do not directly address whether short-term or long-term mating mechanisms are driving these effects. Given the parallels between OSF preferences and both short-term and long-term mate preferences, a more comprehensive account of mating activation in opposite-sex friendships would measure long-term and short-term mating motivations and include an analysis of the different hypothesized functions motivating OSF mating, including genetic benefits, mate switching, and mate insurance. The particular functions of OSF mating may yield even more nuanced predictions about individual differences in OSF preferences. For example, future research would benefit by assessing the mate values of participants and their partners to determine the likely function of mating activation, and using this to generate a more subtle and refined set of predictions about OSF preferences.

The study data are also unable to adjudicate between the broad hypothesis that OSF preferences are driven by mating activation and other potential explanations for the parallels between OSF and mate preferences. One alternative explanation is that forging friendships with individuals who are desirable as mates may provide one with access not only to the OSF, but also to his or her pool of friends. For example, because attractive women tend to have attractive SSFs (Bleske-Rechek & Lighthall, 2010), a man who befriends a physically attractive woman may gain access to valuable mating opportunities. Similarly, a woman who befriends a man high in ERS might gain access to his high ERS friends, who could become valuable social partners, including potential mates. This function of opposite-sex friendship and the mating activation hypothesis may jointly account for the parallel between OSF and mate preferences. The current findings, however, are better accounted for by the mating activation hypothesis, as the friend

pool alternative cannot account for why unmated women exhibit decreased interest in OSFs' economic resources.

The study sample was also limited by relatively small subsamples of men and mated individuals. There were too few mated individuals to determine the key variables motivating mated individuals to pursue mating opportunities with OSFs, and the small subset of mated men limited statistical power to test hypotheses involving sex and relationship status.

#### 4.3. Future directions

Future studies should obtain a larger sample of mated individuals and investigate relationship satisfaction as a mediator of mating activation in opposite-sex friendships. Because of the reduced benefits and higher costs of unsatisfying relationships, relationship dissatisfaction may trigger mating activation. Consistent with this proposition, dissatisfied individuals are more receptive to opportunities to change mates than are satisfied individuals (Greiling & Buss, 2000; O'Farrell, Rosenthal, & O'Neal, 2003).

Relationship satisfaction may also mediate a link between relationship status and expenditure on physical attractiveness. Because dissatisfied individuals may, like unmated individuals, be more likely to treat OSFs like mates, their valuation of characteristics in OSFs that are desirable in mates, such as physical attractiveness, could obscure differences between satisfied and unsatisfied mated individuals.

Future studies should also explore the absence of a relationship between sociosexual orientation and expenditure on OSFs' economic resources. Because women prize economic resources in long-term mates (Buss, 1989; Buss & Schmitt, 1993; Li et al., 2002; Li & Kenrick, 2006), one might initially expect more restricted women to spend more on their OSFs' resources. However, research shows that women also value financial status, willingness to spend, and conspicuous consumption in short-term mates (Buss & Schmitt, 1993; Li et al., 2002; Sundie et al., 2011). Future research differentiating between different types of resource status will be critical in exploring whether restricted and unrestricted women differ in this domain.

#### 4.4. Conclusions

The current study makes several novel contributions toward understanding the psychology of opposite-sex friendship. It is the first to demonstrate an association between a stable personality trait, sociosexual orientation, and OSF preferences, and social partner preferences more broadly. This study is also the first to demonstrate an interaction between sex, sociosexual orientation, and relationship status in predicting OSF preferences, and to provide evidence that OSF preferences may reflect the activation of mating strategies. These findings represent a modest but important first step toward understanding individual differences in opposite-sex friendship, and underscore the heuristic and predictive value of an evolutionary psychological approach to social partner preferences.

#### Acknowledgments

This research was supported in part by an NSF Graduates STEM Fellowship awarded to D.M.G. Lewis.

#### Appendix A

##### Physical Attractiveness

- Well-groomed, stylish, attractive face, no or few scars, attractive lips, exercises effectively, nice skin tone, has nice smile, clear skin, good hair.

##### Physical Prowess

- Can throw heavy objects far, jumps into the heart of a fight, good at fashioning tools, good at sneaking up on animals, good at sneaking up on people, good at tracking animals, can fight for a long time, not afraid to deliver the first punch, fights with no remorse, hits hard.

##### Social Intelligence

- Can tell what others want, good reputation, influential in social sphere, knows many people, gets people to do what they want, socially connected, charismatic, funny, solves disagreements well, keeps friends in the loop.

##### Family Care

- Good at cleaning spills, knows when to throw out food, can control children well, can pick food, can resolve children's problems, knows which foods spoil quickly, knows what upset child wants, conscientious about watching children, careful about food sanitation, aware of dangerous animals.

##### Personality

- Thoughtful, nice to others, generous, encouraging, dependable, team player, empathizes well, very amusing, considerate, not selfish.

##### Economic Resource Status

- Path to high-paying job, expensive lifestyle, clear career goals, does well in school, has wealthy friends, good at multitasking, productive worker, manages time well, has electronics, knows good solutions to problems.

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