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Original Article

Gift-Giving as a Courtship or Mate-Retention Tactic?: Insights from Non-Human Models

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Abstract: Biology and social science research has studied gift-giving, but the former has been more concerned with courtship and the latter has come from either a cultural-relativistic perspective or a handicap principle perspective. We argue that our understanding of gift-giving in humans can be enhanced by examining animal models as long as the model-species shares the appropriate behavior: monogamy. Thus, the gibbon might be a more appropriate model. Monogamy encourages pairs to expend effort in mate-retention. In Study 1 (N = 120), we show that gift-giving in courtship is localized to long-term mates: most strongly in men. In Study 2 (N = 100), we demonstrate that gift-giving is a tactic used by men to both court and retain mates: most commonly for retention. In line with traditional models of helping, women planned to provide gifts to friends and family more than men. We also demonstrate that sociosexuality predicts planned expenditure on gifts to different individuals and that these correlations are moderated by the sex of the participant.

Keywords: gift-giving, mate-retention, courtship, sex differences, mating, animal models

Introduction

Gift-giving is common in the animal kingdom as a tactic males use to encourage females to mate with them (Barrett and Hanzi, 2001; Colmenares, Zaragoza, and

Hernandez-Lloreda, 2002; Hemelrijk, van Laere, and van Hoof, 1992; Simmons, 1995; Vahed, 1998). When male long-tailed macaques groom females (Gumert, 2007), when male chimpanzees offer animal meat to females (Hockings et al., 2007), and when insects offer gifts which range from gifts of a nutritious nature to token-gifts to females (Elgar, 1992; Kessel, 1955; Thornhill, 1976) they increase the probability they will reproduce. However, little work has examined gift-giving in humans from a comparative-evolutionary perspective. The current study examines sex differences and similarities in gift-giving using a comparative-evolutionary approach.

The examination of gift-giving in humans is considered a valid—albeit understudied (Belk and Coon, 1993)—way to examine the process of relationship initiation and the development of strategies that individuals use towards that goal (Dindia and Baxter, 1987; Griskevicius et al., 2007; Seibold, Cantrill, and Meyers, 1994; Shea and Pearson, 1986; Tolhuizen, 1989). Human gift-giving research (e.g., Banks, 1979; Belk, 1976, 1979; Carrier, 1991; Clark, Shaver, and Abrahams, 1999; Huang and Yu, 2000b) has focused on conceptual models (Sherry, 1983), examined underlying motives for gift-giving (Belk, 1988; Caplow, 1982; Cheal, 1987, 1988; Goodwin, Smith, and Spiggle, 1990; Huang and Yu, 2000a; Sherry, 1983; Wolfinbarger, 1990), and came from a cultural relativistic (Brown, 1991) or exchange perspective (Muass, 1925). This research suggests that women tend to be more involved in the gift-giving process, offer more gifts (Caplow, 1982; Fischer and Arnold, 1990), spend more money on average (Rucker et al., 1991), were more satisfied with their gift selection (Fischer and Arnold, 1990), and provide more gifts to kin and friends (Hamilton, 1964; Latané, 1970; Trivers, 1971) compared to men. Consistent with this previous research, we predict that women will give more gifts to family and friends than men.

A small minority of work has examined gift-giving in mating contexts. These authors demonstrate the usefulness of sexual selection (Miller, 2000), parental investment (Trivers, 1972), and the handicap principle (Zahavi and Zahavi, 1997) in understanding gift-giving in humans (Iredale, Van Vugt, and Dunbar, 2008). From this perspective, gift-giving can be conceptualized as a costly signal of mate-quality or willingness to invest (Belk and Coon, 1993; Griskevicius et al., 2007; Huang and Yu, 2000a). A signal is costly when it creates a "handicap" in the holder and it is this handicap that increases attractiveness because it conveys useful information to others about an individual's qualities (Grafen, 1990). Mate-signals like gift-giving (Greer and Buss, 1994; Saad, 2006; Sanderson, Keiter, Miles, and Yopyk, 2007) then should be used by men to attract mates because women tend to be less willing to engage in casual sex and require more investment to engage in sex than men (Simpson and Gangestad, 1991). Gifts appear to promote mating success in hunter-gathers (Hawkes, 1993; Hawkes and Bliege Bird, 2002). Men are willing to donate more money to charity (Iredale et al., 2008) and panhandlers (Goldberg, 1995) and provide more help to strangers in emergencies (Griskevicius et al., 2007; Latané, 1970) when observed by a woman as opposed to a man. Therefore, we predict that men should be more willing to give gifts to mates than women. But because men have an aversion towards misplaced investment (Haselton and Buss, 2000; Rusbult, Martz, and Agnew, 1998), we expect them to localize their expenditure in mates who are less likely to exploit their generosity or those who are considered of higher quality. Therefore, we predict that men will give more gifts to long-term mates than to short-term mates.

Most research on gift-giving in non-humans conceptualizes gift-giving as a

courtship mechanism. However, unlike most mating in animals like chimpanzees and bonobos that is promiscuous (Stumpf, 2007); human mating is characterized as relatively monogamous (Buss, 1994; Fisher, 1992). Therefore, a non-human animal model of human sexuality should come from a species that is also relatively monogamous. Monogamy is rather rare in the animal kingdom and perhaps our closest living relative that does engage in monogamous matings is the gibbon or siamang (Barash and Lipton, 2001; Bartlett, 2007). Gibbons have evolved elaborate song-rituals to signal continued commitment and to scare off rivals (Bartlett, 2007). Mate-retention strategies are replete in humans as well (e.g., Shackelford, Goetz, and Buss, 2005) and gift-giving may be one such strategy (Belk and Coon, 1993; Caplow 1982; Huang and Yu, 2000a) used by those who have evolved tendencies to advertise and exaggerate their resources: men (Greer and Buss, 1994). Therefore, we predict gift-giving as a mate-retention tactic should be more common in men than women. As evidence that our gibbon model is more appropriate to conceptualize gift-giving in humans, we expect that people will provide gifts more for their current partners over those they are courting.

Gift-giving is common in many species including humans. In two studies we attempt to understand gift-giving in humans using non-human animal models. These studies can (1) further highlight the usefulness of evolutionary psychology in understanding how the sexes differ, and are similar, in their pursuit of their reproductive agendas, (2) demonstrate that gift-giving is a viable means by which to understand mating psychology, and (3) how insights from cross-species analysis can be informative in understanding human adaptations and psychology.

Study 1

Most research on gift-giving in non-humans conceptualizes gift-giving as a courtship mechanism. Therefore, we take that as a start. In this study, we address gift-giving in the courtship of long-term and short-term mates. Because human reproduction tends to occur mostly in the context of long-term relationships we expect that men will be willing to give more gifts to women why are pursuing for long-term relationships.

Method

Act-nomination

We conducted an act-nomination study of sixty undergraduates (44% male, M_{age} = 21.66, SD_{age} = 2.52, $range_{age}$ = 19 - 35) from a large public university in the southwestern USA who received extra credit in their psychology class for participation. Ten percent of the participants were sophomores, 56% were juniors, and 34% were seniors. Each participant was provided half a page of an 8.5 x 11 sheet of paper to list as many gifts as they could to the questions: (1) “Name all the gifts you have bought for someone you pursued as a new serious romantic partner” and (2) “Name all the gifts you have bought for someone you pursued as a new casual sex partner.”

We began with the operational definition that for something to be considered a gift it had to cost money itself. The complete list provided by participants contained fifteen unique gifts provided across the participants. Only those gifts that actually cost money were retained, leaving four types of gifts: presents (gifts and presents), jewelry (ring, necklace,

and jewelry), flowers (roses and flowers), and marijuana (pot and marijuana): a list similar to prior work on lists of romantic acts (Hong and Faedda, 1994; Tucker, Vivian, and Marvin, 1992) with the exception of buying marijuana. Items that were excluded did not cost money on their face (e.g., watching a movie) or are more accurately described as romantic acts (e.g., kissing). Based on these rules, the authors agreed on these face-valid types of gifts (Bulmer, 1979).

Unfortunately, four types of gifts is a rather small list. We feel this is because (1) undergraduate students may have limited experience in sexual and romantic relationships, and thus limited experience in gift-giving in those contexts and (2) the result of using a qualitative approach to assess gift-giving (Buss and Craik, 1983). In the next study, we assess intentions to give gift-types as proxies for actual gift-giving (Ajzen and Fishbein, 1980) or individual gifts to reduce the effects of limited experience in sexual and romantic relationships. Although participants may not have had much experience with gift-giving, an evolutionary perspective would suggest that men and women would be so finely-tuned as to know what they *would* do in mating contexts.

Act-frequency

Participants. One hundred twenty participants (39% male, M_{age} = 22.01, SD_{age} = 6.01, $range_{age}$ = 18 - 40) from a large public university in the southwestern USA participated in exchange for extra credit in their psychology class. Participants from the act-nomination portion were restricted from participation. Eleven percent of the participants were first year students, 28% were sophomores, 27% were juniors, and 34% were seniors. Thirty-three percent were single, 56% were dating, and 11% were married.

Procedure and Measures. In a questionnaire, we asked participants eight questions assessing how willing they were to buy each of the four types of gifts for their long-term, romantic and short-term, casual sex partners. Specifically, participants were asked: "How much are you willing to buy [each gift-type from the act-nomination portion] for someone you would pursue as a [mating type (short-term or long-term)] partner" (1 = *not at all*; 5 = *very much*). Participants then reported their demographic information. At the end of the study, participants were thanked and debriefed.

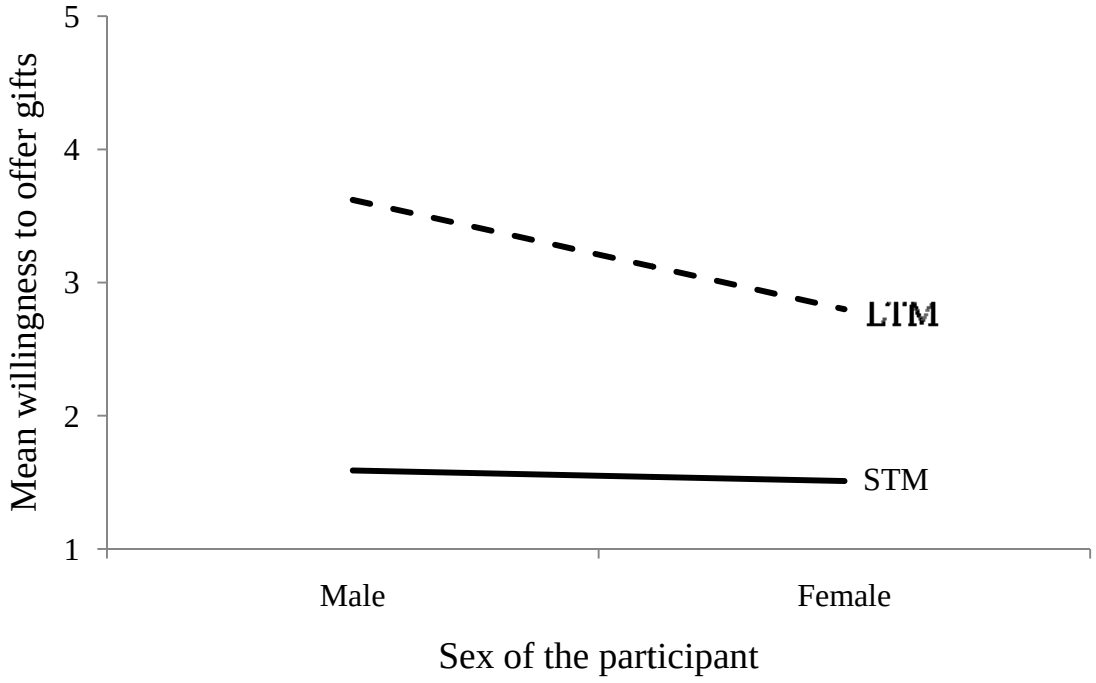
Based on the ratings of willingness to buy gift-types for both new short-term and new long-term mates, we created three scales. We conducted three principle components analyses for each of the measures reported below. The items regarding willingness to buy marijuana for short-term and long-term mates loaded below .40 in factor analyses, likely because of the illegal nature of marijuana use. We averaged across the remaining items for gifts towards the goal of securing a short-term mate (Cronbach's α = .87; M = 1.53, SD = 0.80; Variance accounted for = 77.54%) and long-term mates (α = .80; M = 3.01, SD = 1.26; Variance accounted for = 74.33%) to create indexes of the likelihood to provide any gift toward that mating goal. Then we averaged across all gifts to get a general measure of willingness to give gifts to mates (α = .81; M = 2.72, SD = 0.88; Variance accounted for = 53.39%).

Results

A 2 (participant sex) x 2 (short- vs. long-term mate) mixed factorial design, with repeated measures on the last factor, revealed a main effect of mating duration ($F(1, 118)$ = 155.55, $p < .01$, η_p^2 = 0.64), participant's sex ($F(1, 118)$ = 5.46, $p < .01$, η_p^2 = 0.06), and an

interaction between the two ($F(1, 118) = 8.58$, $p < .01$, $\eta_p^2 = 0.09$) shown in Figure 1. Planned comparisons revealed that men were more willing to buy gifts overall, compared to women ($t(118) = 2.34$, $p < .05$, $d = 0.43$). Men were more willing than women to buy gifts in the context of long-term relationships ($t(118) = 3.03$, $p < .01$, $d = 0.56$) and slightly more in short-term mating ($t(118) = 0.43$, *ns*, $d = 0.08$). Individuals were more willing to buy gifts for long-term partners than short-term partners ($t(118) = -11.90$, $p < .01$, $d = -2.19$). In Table 1 we report sex differences in willingness to provide specific gift-types, suggesting men have an aversion towards misplaced investment in gift giving.

Figure 1. The interaction between gift-giving by the sex of the participant for different mating durations.



Notes: $F(1, 118) = 8.58$, $p < .01$, $\eta_p^2 = 0.09$; STM = gifts to short-term mates; LTM = gifts to long-term mates

Table 1. Sex differences and similarities by gift-type and mating duration.

	Overall	Males	Females		
	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	*t*	*d*
For short-term mates					
Jewelry	1.24 (0.66)	1.27 (0.72)	1.23 (0.64)	0.23	0.04
Flowers	1.61 (1.06)	1.81 (1.17)	1.53 (1.01)	1.13	0.21
Presents	1.74 (1.00)	1.69 (1.01)	1.77 (1.00)	-0.31	-0.06
For long-term mates					
Jewelry	2.58 (1.45)	3.12 (1.37)	2.36 (1.44)	2.29*	0.42
Flowers	2.93 (1.63)	4.04 (1.18)	2.48 (1.58)	4.51**	0.83
Presents	3.52 (1.29)	3.69 (1.26)	3.45 (1.31)	0.80	0.15

Notes: *$p < .05$, **$p < .01$; *d* is Cohen's *d.*

The tendency to provide gifts towards a long-term partner was correlated with the tendency to provide those same gifts towards a short-term partner ($r(119) = .42$, $p < .01$). This correlation was slightly ($z = 1.40$, $p = .08$) stronger in women ($r(73) = .49$, $p < .01$) compared to men ($r(47) = .26$, $p < .01$). Women appear to give gifts in a more general sense than men do: men focusing their gift-giving in a more strategic fashion towards long-term mates.

Discussion

In Study 1, we demonstrated that men tend to provide gifts to mates more than women. Men were more willing to offer gifts than women and this was strongest in the context of long-term mating. In Study 1, the focus was on pursued reproductive opportunities, but because of the rather unique mating system of humans, reproductive relationships might be ongoing. Unlike chimpanzees, human pairs tend to exist over time for about 4 years (Fisher, 1992) and thus gift-giving may be instrumental in maintaining such a relationship like a gibbon. Additionally, individuals have many more options than sexual and romantic partners to give gifts to: including friends and family. The next study will take a broader approach to examine gift-giving in humans.

Study 2

The holiday season, 2008 in this case, is perhaps the best time to ask individuals about their gift-giving tendencies. Gift-giving is a central feature of the holiday season at least in the USA and thus gift-giving is more likely in the forefront of individuals' minds (Caplow, 1982). Therefore, in the next study we assess sex differences in gift-giving to a variety of recipients as well as the correlations between planned expenditure and sociosexuality.

Method

Participants

One hundred participants (46% male, M_{age} = 24.31, SD_{age} = 7.02, $range_{age}$ = 18 - 58) were solicited to take part in a brief, online survey about their plans to buy gifts for a variety of people for the holiday season for 2008 (November 1st to December 24th). Only those responses that came from a unique IP address were used.

Procedures and Measures

Participants were directed to a website that first instructed them of the nature of the study. They were told that it was regarding their expenditures for the upcoming holiday season. First, participants reported the total amount (in USD) they intended to spend on holiday gifts (*M* = 602.86, *SD* = 563.67, *range* = 25 – 3000). Second, participants reported how much (in USD) they planned to spend on existing romantic partners (*M* = 169.38, *SD* = 252.52, *range* = 0 – 1200), existing sexual partners (*M* = 25.47, *SD* = 93.08, *range* = 0 – 700), someone being courted as a sex partner (*M* = 31.30, *SD* = 145.30, *range* = 0 – 1000), someone being courted as a romantic partner (*M* = 22.25, *SD* = 69.11, *range* = 0 – 500), friends (*M* = 76.35, *SD* = 139.48, *range* = 0 – 1000), family (*M* = 277.03, *SD* = 292.35, *range* = 0 – 1800), and other (*M* = 1.09, *SD* = 8.77, *range* = 0 – 85). "Family" was specified as brother, sister, mother, father, child etc. "Friends" was specified as someone you are not having sex with. The order of these potential gift-recipients was randomly oscillated. They were instructed to make sure that the amount of money spent on recipients summed to the total they claim to be planning to spend. Third, participants responded to the sociosexuality index (Simpson and Gangestad, 1991). As in prior work (e.g., Simpson and Gangestad, 1991), individual SOI items were standardized (*z*-scored) prior to computing an index of sociosexuality (α = .88). Last, participants reported their age in years, their sex, and their total income (in USD) per year (*M* = 32, 388.07, *SD* = 31, 449.04, *range* = 500 – 130, 000). At completion, participants were thanked and debriefed.

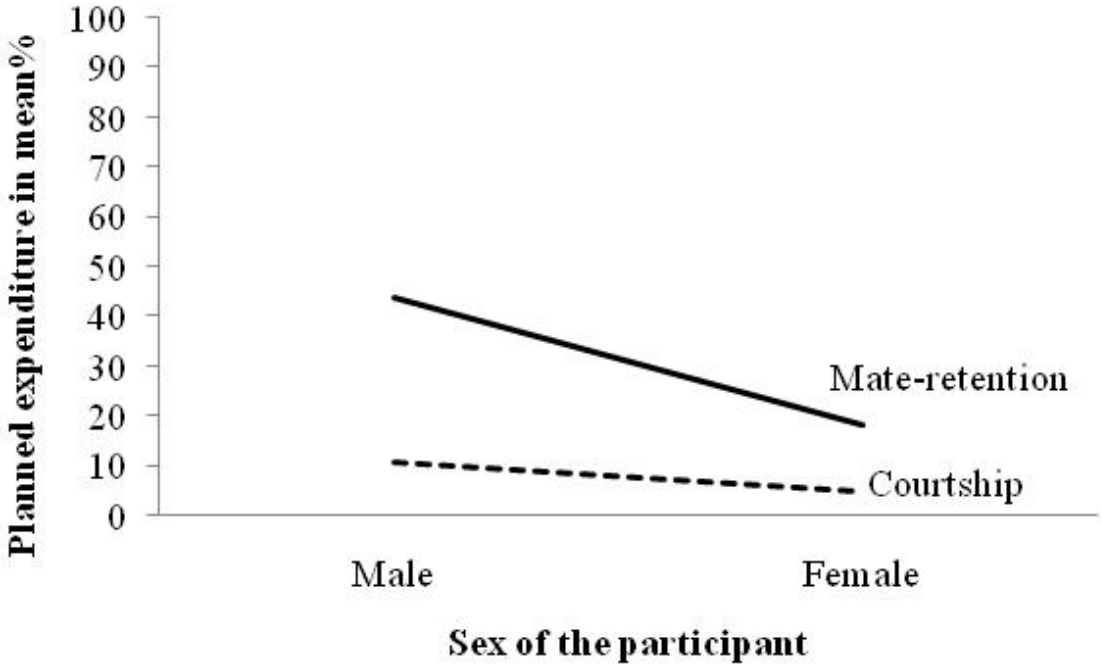
For analysis purposes we utilized percentages and not raw data because individuals do not all make the same amount of money per year. What is more important for our purpose here is the percentage of income participants are willing to sacrifice as opposed to an actual dollar amount. From these percentages we created five indexes. We summed across the four mating items, regardless of the courtship-mate-retention distinction, creating an overall index of gift-giving to mates. By summing across the items that correspond to mating duration, we created an index of gift-giving towards short-term and long-term mates. By summing across the courtship items we created a measure of gift-giving for pursuit of mates. By summing across the items for existing mates we created an index of gift-giving for mate-retention.

Results

First, we report sex difference tests. In a 2 (participant sex) x 2 (courtship vs. retention) mixed design, participant's sex had a main effect on gift-giving in the context of mating ($F(1, 99) = 22.14$, $p < .01$, $\eta_p^2 = 0.65$). Planned comparisons revealed that men planned to spend more on gifts in general ($t(98) = 6.07$, $p < .01$, $d = 1.23$), gifts towards casual sex partners ($t(98) = 3.64$, $p < .01$, $d = 0.72$), and a romantic partner ($t(98) = 4.45$, $p < .01$, $d = 0.90$) than women. Men also planned to spend more money than women to their

current partners ($t(98) = 5.16$, $p < .01$, $d = 1.04$) and slightly more to courted partners ($t(98) = 1.97$, $p < .06$, $d = 0.39$). We report this comparison in Figure 2. Women planned to spend more on friends ($t(98) = 2.03$, $p < .05$, $d = 0.41$) and family ($t(98) = 5.09$, $p < .01$, $d = 1.03$) than men. No other sex differences were significant.

Figure 2. Comparing rates of gift-giving across mate-retention, courtship, and sex of the participant.



Note: $F(1, 99) = 6.73$, $p < .05$, $\eta_p^2 = 0.36$

Second, we compare gift-giving tendencies. In a 2 (participant sex) x 2 (short- vs. long-term mate) mixed design, mating duration had a main effect on gift-giving in the context of mating ($F(1, 99) = 50.16$, $p < .01$, $\eta_p^2 = 0.81$). Planned comparisons revealed that participants were more willing to provide gifts to romantic partners over casual sex partners ($t(98) = -8.30$, $p < .01$, $d = -1.20$). Participants were more willing to give gifts to mates than friends ($t(98) = -6.02$, $p < .01$, $d = -1.01$). Participants were slightly more willing to give gifts to family than mates ($t(98) = 1.93$, $p < .06$, $d = 0.38$). Gift-giving was used more for current mates than courted mates ($t(98) = -6.74$, $p < .01$, $d = -1.01$).

Last, we report results from correlations with sociosexuality. A less restricted mating style was associated with more expenditure for mating in general, casual sex, and gift-giving for courtship. A more restricted mating style was associated with more expenditure to family. We report these correlations and tests for moderation by the sex of the participant in Table 2.

Table 2. Overall and by-sex correlations with sociosexuality.

	Overall	Male	Female	*z*
Gift-giving towards mates in general	.25*	.19	-.22	2.01*
Gift-giving towards casual sex partners	.43**	.42**	.09	1.73*
Gift-giving towards romantic partners	.07	-.05	-.26	1.53
Gift-giving for courtship	.40**	.53**	-.40**	4.90**
Gift-giving for mate-retention	.06	-.15	-.70**	3.46**
Gift-giving towards friends	-.01	.07	.11	-0.20
Gift-giving towards family	-.28*	-.26	.13	-.192*

Notes: * $p < .05$, ** $p < .01$; *z* is Fisher's *z* comparing by-sex correlations.

Discussion

Study 2 has greatly added to our results from Study 1 in understanding gift-giving. Men appear to give gifts more in general to mates as would be expected (e.g., Li and Kenrick, 2006), but it is made clear in this study that human gift-giving is more about mate-retention than courtship. Gift-giving tendencies were strongest for current relationships whether they be short-term or long-term in nature and this effect was strongest in men. We provide evidence that women tend to localize their expenditure in family and kin which is consistent with reciprocal altruism and helping models of gift-giving (Hamilton, 1964; Trivers, 1971). We also provide additional evidence that suggests that men who are less restricted in their sociosexuality plan to spend more money on those who might provide some reproductive return. These men also plan to spend the most money on courtship.

General Discussion

Gift-giving is a common topic in both biology and in the social sciences. However, the approach taken by most of the research on human gift-giving does not take into account animal models and is either from a cultural-relativistic perspective (Brown, 1991) or focuses on the costs of such a mate signal (Iredale et al., 2008). Biology research on the topic appears to not be particularly relevant to human mating because humans have a relatively unique mating pattern—serial monogamy—as compared to most other animals who engage in a more polygamous matings (Barash and Lipton, 2001). Biology research suggests that gift-giving is for courtship, but our evidence suggests that gift-giving is more of a mate-retention tactic than a courtship tactic in humans. This causes us to believe that if we want to seek out a non-human animal model for human sexuality, we must identify a species that puts in considerable effort to mate-guard and is relatively monogamous. We feel the proper model is the gibbon or the siamang, a relatively monogamous primate who extends daily effort in mate-guarding (Bartlett, 2007).

Men tend to pursue relationships more than women (e.g., Buss and Schmitt, 1993; Li and Kenrick, 2006) and men have a tendency to advertise their resources more than women do (e.g., Buss and Schmitt, 1993; Greer and Buss, 1994). Therefore, when these

two are put together it becomes clear that gift-giving is a tactic men use to court and maintain relationships that conform to their predispositions to attempt to advertise those qualities that women want in mates. Our results are consistent with prior work (Caplow 1982; Griskevicius et al., 2007; Huang and Yu, 2000a; Saad and Gill, 2003), but we assessed gift-giving as a mate-retention and courtship tactic in both long-term and short-term mating contexts. Gift-giving, as mating-related phenomena, may be part of the co-evolutionary arms race or the battle of the sexes (Buss and Malamuth, 1996).

In contrast to gift-giving in men, women are more generous in their giving and are not as agentic in their gift-giving as men (Caplow, 1982; Fischer and Arnold, 1990; Rucker et al., 1991). In Study 2, women's expenditure appears to be localized to friends and family (Hamilton, 1964; Latané, 1970; Trivers, 1971). This tendency in women may be reflective of their greater interest in having and maintaining large social networks (Buhrke and Fuqua, 1987) and is consistent with evidence that suggests that women give similar amounts to charities regardless of who is observing them (Iredale et al., 2008). Although men did spend money on family members in Study 2, this is likely affected by the customary intrafamilial exchange of gifts during the holidays. In fact, it was men who were least restricted in their sociosexuality who provided the bulk of money by men to family members.

Sociosexuality has proven to be an important individual difference in understanding people's sexuality (Simpson and Gangestad, 1991) and thus we included it in Study 2. Overall, those who are less restricted in their mating planned to expend more on those they could mate with–especially casual sex partners–and those who had a restricted sociosexuality planned to spend more money on family. When we examined potential moderation by the sex of the participant in these correlations, it becomes clear that men who are less restricted in their sociosexuality planned to spend more on their casual sex partners, for courtship, and mate retention. Interestingly, for these men, moderation was relatively weaker comparing across courtship and mate-retention suggesting that these less restricted men use gifts for courtship more than more restricted men. However, these less restricted men may not be spending more money on single casual sex partner and are instead spreading their investment across multiple short-term mates as means of "covering their bets" or minimizing their risk (Haselton and Buss, 2000; Rusbult et al., 1998). It also appears that men who are more restricted planned to spend much more money on family members. The patterns in women are virtually opposite to those found in men. One of note was that unrestricted females were willing to spend little money towards mate-retention. These women conceivably have other commodities that they tend to trade like sexual access (e.g., Colmenares et al., 2002).

Although Study 1 may have had some limitations, we feel that Study 2 addresses them. In Study 1 we had a relatively small sample size of college students being asked hypothetical questions based on a small number of potential gifts. Therefore, we conducted a second study to replicate and extend our results using an Internet-based sample where participants reported their planned expenditure for gift purchases for an impending holiday season. Taken together we provide much more compelling evidence. Study 2 does present some potential limitations. Most notably, gift-giving during the holiday season may not be the best time to assess gift-giving in the context of sexual relationships because of the familial nature of the holidays as shown in the rather high level of gift-giving to family members. Additionally, it is possible that the percent expended on gifts may reflect the

number of potential option each person has in each category. For instance, by using a generic term like "family," individuals may be reporting expenditure to a greater number of individuals that is most likely a smaller amount in, for instance, current romantic partners. Similarly, those high SOI men who spent the most on gifts for courtship may be spending relatively small amounts for a number of partners as opposed to a person who is low on SOI, investing heavily in one partner. One limitation that crosses both studies is social desirability. It may be more socially acceptable to pursue long-term relationships over short-term ones and to give gifts to family member, thus conforming to social pressures (Cheal, 1987, 1988), and thus attenuating our results.

Future work should address how mate-value predicts gift-giving. Research in insects (LeBas, Hockham, and Ritchie, 2004) suggests that males of lower quality may be more likely to offer gifts. Among insects, it is the small males, a mark of lower quality, who reproductively benefit the most from gift-giving. It may be that men who are less physically attractive, a measure of mate-value in humans (Li and Kenrick, 2006), may be likely to invest more money in gift-displays than men who have high mate-value. However, we urge caution at generalizing from any species and, instead, encourage researchers only to derive hypotheses based on the species that demonstrate similar tendencies in the domain of interest as a primary concern and genetic relatedness as a secondary one. In essence, we are arguing for reasoning by analogy first, to be followed by homology (for review see, Lauder, 1986). There are likely a finite number of solutions to the adaptive problems faced by adopting any one mating pattern.

To understand better the battle of the sexes, it might also be necessary to explore gift-reception in the context of mating. We might find that women use reception in a strategic fashion; they may reject gifts from those they have no interest in, accept some gifts from short-term mates, and accept even more gifts from long-term mates. Additionally, understanding the motivations underlying women's acceptance of these gifts will be fruitful. Prior research has examined gift-reception in a domain-general fashion (Belk, 1976).

While gift-giving appears to be both universal among humans and common across the animal kingdom, its cross-cultural application appears to differ (Saad and Gill, 2003). In different cultures, the commodities that men may offer as gifts are likely to be a reflection of social learning and local customs. For instance, in tribal societies, males who provide gifts of animal meat have greater success securing mates (Hawkes, 1993; Hawkes and Bliege Bird, 2002). In truth, the limited number of gifts provided in the act-nomination portion of the study may be a function of socially learned rules about what people buy as gifts for potential mates. Within modern societies, the types of gifts differ from money (Goldberg, 1995) to physical help (Griskevicius et al., 2007). Although the type of gift might differ, we would expect that gift-giving will continue to be a type of mate-signal used by males. The definition of what defines a gift will surely change across and between cultures, but the willingness to give gifts in general should apply to all types of gifts.

How does one model human sexuality based on comparative animal models? The most attractive option is to favor the Great Apes because of the high degree of genetic-relatedness. However, the Great Apes, sans humans, are characterized by a more polygamous mating style. Instead, we find cause to use the Lesser Apes – gibbons and siamangs – as models of human gift-giving in as much as they are relatively monogamous and expend considerable effort in mate-retention. Based on this gibbon-model, we find that

although men tend to pursue reproductive opportunities more than women and they tend to use gift-giving more than women, they really use gift-giving in the context of current relationships and not in courtship. We feel this suggests that in human gift-giving is more of a mate-retention tactic than it is a courtship tactic. As a courtship tactic, gift-giving is most strongly used by those who pursue a less restricted mating style; this is what one would expect from reasoning from more promiscuous maters like chimpanzees. We might then describe human sexuality as mostly gibbon-like and a little chimpanzee-like. In sum, we encourage more comparative-evolutionary studies in general and more work on gift-giving in humans as a means of understanding mating psychology and the underlying causes of adaptations.

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