



CHICAGO JOURNALS

Journal of Consumer Research, Inc.

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Source: *Journal of Consumer Research*, (-Not available-), p. 000

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/10.1086/673256>

Accessed: 16/10/2013 11:25

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Conspicuous Consumption, Relationships, and Rivals: Women's Luxury Products as Signals to Other Women

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Past research shows that luxury products can function to boost self-esteem, express identity, and signal status. We propose that luxury products also have important signaling functions in relationships. Whereas men use conspicuous luxury products to attract mates, women use such products to deter female rivals. Drawing on both evolutionary and cultural perspectives, five experiments investigated how women's luxury products function as a signaling system directed at other women who pose threats to their romantic relationships. Findings showed that activating a motive to guard one's mate triggered women to seek and display lavish possessions. Additional studies revealed that women use pricey possessions to signal that their romantic partner is especially devoted to them. In turn, flaunting designer handbags and shoes was effective at deterring other women from poaching a relationship partner. This research identifies a novel function of conspicuous consumption, revealing that luxury products and brands play important roles in relationships.

A designer handbag found on the shelves of stores such as Neiman Marcus, Saks Fifth Avenue, or Nordstrom costs anywhere from several hundred to several thousand dollars. Yet American women acquire on average three new handbags each year (Bev and Zolenski 2011), prominently flaunting designer brands such as Fendi, Gucci, Louis Vuitton, Marc Jacobs, Christian Dior, Prada, and Chanel (Han, Nunes, and Drèze 2010). In the United States alone, spending on luxury goods amounts to as much as \$525 billion per year (Bev and Zolenski 2011), with women's products accounting for over half of this consumption (D'Arpizio 2012). Given women's passion for pricey possessions, why do women desire luxury goods?

Considerable research has examined why people seek luxury products, finding that such products can boost self-es-

teem, express one's identity, and signal status (e.g., Belk 1985; Han et al. 2010; Richins 1987; Veblen 1899). Brandishing a designer handbag or a luxury watch, for example, is often used to convey a person's level of prestige. But there is reason to believe that luxury products play an important role in another ubiquitous part of life—relationships. For instance, studies examining men's conspicuous consumption have found that men's displays of luxury goods serve as a “sexual signaling system” to attract romantic partners (Griskevicius et al. 2007; Sundie et al. 2011). Here we consider whether women's luxury products might also play an important role in relationships.

Unlike for men, whose luxury goods often serve as signals to potential mates, we propose that women's luxury possessions often serve as signals to other women. We investigate the idea that women's flaunting of designer products functions as a signaling system directed at same-sex rivals who pose a threat to a woman's relationship. We hypothesize that some women use pricey possessions to signal to other women that their romantic partner is especially devoted to them. In turn, flaunting designer handbags and shoes helps women deter romantic rivals from poaching their relationship partner. We investigate this idea in five experiments, which test which factors trigger women to seek conspicuous luxury possessions, what signals such possessions send to

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Ann McGill served as editor and Jaideep Sengupta served as associate editor for this article.

Electronically published August 29, 2013

other women, and whether these signals are effective at altering other women's behavior. This research makes a contribution by identifying a novel function of conspicuous consumption, revealing how women's luxury products and brands play an important role in relationships.

LUXURY PRODUCTS

From \$300 designer shoes and \$10,000 outdoor grills, to \$20,000 Sub-Zero freezers and \$5,000 necklaces, each year consumers spend billions of dollars on luxury products—relatively expensive products that provide increased prestige without providing additional utilitarian value. Considerable past research has investigated why people desire luxury products. People sometimes seek such goods for intrinsic benefits to the self, whereby luxury goods can provide a better sense of self and boost a person's self-esteem (Belk 1988; Berger and Heath 2007; Douglas and Isherwood 1978; Holt 1998; Sivananthan and Pettit 2010; Solomon 1983). For example, some individuals believe that having luxury goods will make them happier and more fulfilled (Belk 1985; Richins 1987), and this is especially true when individuals feel deprived (Charles, Hurst, and Roussanov 2009).

People also seek luxury products because such possessions can signal important information to others (Belk, Bahn, and Mayer 1982; Richins 1994). The tendency to purchase and exhibit expensive goods is known as conspicuous consumption (Veblen 1899), whereby luxury goods—and luxury brands—are often used to communicate a person's wealth or level of prestige (Bagwell and Bernheim 1996; Han et al. 2010; Mazzocco et al. 2012; Rucker, Galinsky, and Dubois 2012; Wernerfelt 1990; Wilcox, Kim, and Sen 2009). For example, expensive products can convey the owner's status or good taste, and this signal could be directed to a general audience or to select individuals important to the signaler (Berger and Ward 2010; Han et al. 2010; Wernerfelt 1990).

The current research builds on the idea that conspicuous luxury possessions can signal information to others. Here we focus on examining whether luxury products might have important and unique signaling functions specific to relationships.

RELATIONSHIPS AND LUXURY PRODUCTS

Relatively little consumer research has considered the roles of products and brands in relationships. Some work in this area has examined gift giving, generally showing that men spend considerable resources on gifts to women (Belk and Coon 1993; Heilman, Kaefer, and Ramenofsky 2012; Jonason et al. 2009; Joy 2001; Rugimbana et al. 2002; Saad and Gill 2003; Sarett 1960). Other work has focused on joint decision making in relationships, investigating how husbands and wives make important spending decisions (Davis 1970, 1971; Filiatrault and Ritchie 1980; Kirchler 1993; Rick, Small, and Finkel 2011; Simpson, Griskevicius, and Rothman 2012). Here we consider the role of luxury products in relationships.

Luxury goods are known to serve an important function in relationships for men by helping to attract romantic partners (Griskevicius et al. 2007; Janssens et al. 2011; Sundie et al. 2011). Given that ostentatious displays of wealth have been occurring across the globe for millennia, men's tendency to seek and display luxury possessions is believed to have enhanced their reproductive fitness (Miller 2009; Saad 2007). Consistent with this idea, studies find that merely activating a mate attraction motive automatically triggers men to pay more attention to expensive products (Janssens et al. 2011), choose more luxurious brands (Sundie et al. 2011), and pay more money for conspicuous luxury products (Griskevicius et al. 2007). In turn, men who flaunt luxury goods are seen as more sexually attractive by women (Sundie et al. 2011).

But while men's flaunting of luxury products is known to have an important function in relationships, it is unclear whether women's tendency to display luxury goods serves any purpose when it comes to relationships. If it does, it is unlikely to be the same purpose as for men—to attract mates. In six separate studies, activating a desire to attract a mate in women had no effect on women's desire for conspicuous luxury products (Griskevicius et al. 2007; Sundie et al. 2011). However, this lack of findings for women does not mean that women's luxury products have no function in relationships. Instead, as we discuss next, women's luxury products may have a very different function than men's.

RELATIONSHIPS AND MATE GUARDING

Relationship research reveals that having a successful relationship involves solving at least two central challenges (Griskevicius, Haselton, and Ackerman, forthcoming). First, having a relationship requires attracting a mate. But because many relationships do not end after a mate is merely attracted, successful relationships involve solving a second challenge: retaining that mate (Buss 1988; Buss and Shackelford 1997). Research in biology and anthropology shows that after a romantic partner has been attracted, keeping that partner and staying together in a relationship contributed significantly to enhancing reproductive fitness (Hill and Hurtado 1996). The challenge of retaining a mate is not only distinct from the challenge of attracting a mate, but mate retention is considered to be a "fundamental" human evolutionary problem (Griskevicius and Kenrick 2013; Kenrick et al. 2010).

A central component of solving the challenge of mate retention is mate guarding, which involves managing the threat of romantic competitors (Campbell and Ellis 2005). Individuals engage in mate guarding when they sense a threat to their romantic relationship. For example, a mate guarding motive can be triggered by jealousy, such as when another person starts to flirt with one's romantic partner (Sheets, Fredendall, and Claypool 1997). Activating a mate guarding motive leads people to scan the environment for potential interlopers who might pose a threat to the relationship (Maner et al. 2007). For instance, whereas acti-

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vating a mate attraction motive leads people to be more attentive to attractive members of the opposite sex (Maner et al. 2005), activating a mate guarding motive leads people to be more attentive to attractive members of the same sex, who represent potential threats to the relationship (Maner et al. 2009).

Mate guarding has been particularly important for women over evolutionary history (Buss and Schmitt 1993; Buss et al. 1992). Because successful reproduction has required women to expend considerable time and energy to gestate offspring and provide nutrition via nursing, women have historically been more dependent on a relationship partner to help contribute resources to her and her offspring (Hurtado et al. 1992; Kaplan et al. 2000; Marlowe 2003). Women have also historically incurred higher reproductive costs when a relationship partner fails to provide (Geary 2000; Hurtado and Hill 1992). For example, when another woman poaches a woman's relationship partner, the man may divert valuable resources to the other woman or abandon the older relationship altogether. Women are therefore likely to be particularly motivated to guard relationships against mate poachers.

WOMEN'S LUXURY PRODUCTS AS A SIGNALING SYSTEM TO OTHER WOMEN

The threat of mate poaching continues to be a pervasive challenge in contemporary society (Thompson 1983; Wiederman 1997). To guard their relationship partner from being poached, women use a variety of tactics (Buss 1988). For example, women can directly confront the would-be poacher (Buss and Shackelford 1997). But women also often use more subtle tactics to guard their mate. For example, studies show that mate poachers are less likely to pursue a taken man when he is highly devoted to his relationship partner (Schmitt and Buss 2001). This suggests that an effective mate guarding tactic for a woman is to convey to other women that her partner cares for her deeply and is committed to the relationship (Buss 1988).

We propose that women use luxury products to signal to other women that their romantic partner is especially devoted to them. We hypothesize that women's flaunting of luxury possessions therefore functions as an intrasexual signaling system: women use luxury products to send signals to other women in order to deter those other women from poaching their romantic partner. The current research investigates whether such a system exists and how it works.

Pilot Study: Women's Own Beliefs about Luxury Products and Relationships

For women to use luxury goods to signal that their partner is devoted to them, at least some women must believe that their own luxury goods can signal this kind of information. To examine if any women actually possess this lay belief, we surveyed 76 women ($M_{\text{age}} = 33.46$, $SD = 11.27$) on Amazon's Mechanical Turk (MTurk). The women were

asked to "Imagine you are in a relationship and you go to a social event with your partner." They then responded to four different yes/no questions regarding whether the women themselves believed that other women would infer that their relationship partner was more devoted to them based on the outfit and jewelry that the woman chose to wear. Specifically, the women were asked: "Do you think some women might judge that your partner cares about you more [is more committed to you] when they see you wearing a designer [more expensive] outfit and jewelry?"

Results showed that more than half of the women indicated that they believe that other women would infer that their relationship partner was more devoted to them based on their own outfit and jewelry. Specifically, a majority of women believed that other women would infer that a more expensive outfit and jewelry indicates that their partner cares more about them (61.8%) and is more committed (53.9%). Similarly, a majority of women believed that other women would infer that a designer outfit and jewelry indicates that their partner cares more about them (52.6%) and is more committed (55.3%).

The findings from the pilot study indicate that over half of the women surveyed believe that their own displays of luxury products can be used to signal to other women how much their partner is devoted to them. This belief was held at similarly high levels regardless of whether the women were currently single, dating, in a committed relationship, or married (all $p > .43$). Thus, a substantial portion of women have a lay belief that luxury goods can indicate how much their partner is devoted to them, providing initial support for the possibility that women's luxury goods can function as a signaling system to other women in the service of mate guarding.

Do Receivers Accurately Decipher the Signal?

For a signaling system to work, receivers must be able to accurately decipher the signal. This means that other women must be able to discern information about the devotion level of a male romantic partner based on the luxuriousness of his female partner's products.

There is good reason to believe that other women are likely to infer this kind of information. Men across cultures spend considerable resources to attract and secure a relationship partner (Buss 1988; Jonason et al. 2009; Sundie et al. 2011), with gift giving being essential to enduring romantic relationships (Huang and Yu 2000). This suggests that a substantial portion of a woman's possessions may reflect her partner's investment in the relationship (Heilman et al. 2012; Joy 2001; Rugimbana et al. 2002). This is important because a man's willingness to spend and invest resources in a mate is considered a strong indicator of his commitment to the relationship (Buss and Schmitt 1993). Thus, women's possessions such as expensive handbags, luxurious jewelry, and designer shoes are likely to lead other women to infer a higher level of devotion from her relationship partner. Formally:

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- H1:** A woman with luxurious possessions should be perceived by other women as having a more devoted partner.

Are Women Motivated to Send the Signal in Appropriate Contexts?

For a signaling system to work, senders must send the signal in the appropriate context. This means that women should be particularly motivated to seek and display luxury possessions specifically when their relationship is threatened by another woman.

Because female mate poachers are less likely to pursue a committed man, an effective mate guarding tactic for women should be to signal to other women that their partner is deeply committed to them. Given that many women believe that luxury goods can indicate to other women how much their partner is devoted to them (see the pilot study above), the desire for conspicuous luxury products should be particularly strong when a woman's romantic relationship is threatened by another woman. For example, if another woman begins to flirt with one's romantic partner, this should trigger women to seek and display luxury goods. We therefore predicted that women's desire for conspicuous luxury products should be triggered by merely activating a motive to guard a mate (Griskevicius and Kenrick 2013). Formally:

- H2:** Activating a mate guarding motive should trigger women's desire for conspicuous luxury goods.

Is the Signal Distinct and Directed to the Intended Receiver?

If women use products as signals to deter romantic rivals, should all products be equally effective? According to our model, the most effective signals for mate guarding should be conspicuous luxury possessions—products that are both expensive and publicly visible. For example, a woman's opulent washing machine or luxurious alarm clock has limited signaling value when another woman is flirting with her romantic partner across town. Because only publicly conspicuous luxury possessions can be easily seen by others, it is precisely these kinds of possessions that should be most effective as signals to romantic rivals. This suggests that a mate guarding motive should not lead women to simply desire more expensive products in general but should instead lead them to specifically desire conspicuous luxury possessions. Formally:

- H3:** A motive to guard a mate should lead women to seek publicly conspicuous luxury products but not less conspicuous products that are generally used in private.

Finally, if women use luxury products as signals to other women who are potential mate poachers, this suggests that women's desire for luxury products should depend on the

audience who can see those products. In situations when it is not possible for the intended audience to observe the signal, a mate guarding motive should be unlikely to trigger women's desire for flaunting luxury goods. Instead, a mate guarding motive should trigger women's desire for conspicuous luxury products when the situation allows for the products to be seen by potential mate poachers. Formally:

- H4:** A mate guarding motive should lead women to seek conspicuous luxury products when the products can be seen by other women who pose a threat to the relationship.

THE CURRENT RESEARCH

Five experiments tested the idea that women's flaunting of luxury products functions as a signaling system to other women in the service of mate guarding. Study 1 examined whether receivers accurately decipher the signal, testing whether other women perceive a woman with luxurious possessions as having a more devoted partner (hypothesis 1). Study 2 investigated the triggers for women's desire for expensive goods, testing whether activating a mate guarding motive triggers women's desire for conspicuous luxury products (hypothesis 2). Study 3 examined the specificity of the signal, testing whether activating a mate guarding motive leads women to specifically seek conspicuous luxury products rather than less visible but still expensive goods (hypothesis 3). Study 4 investigated the specificity of the audience, testing whether a mate guarding motive is most likely to trigger women's desire for conspicuous luxury products when the products are easily visible to rival women (hypothesis 4). Finally, study 5 examined the effectiveness of the signal, testing whether conspicuous luxury products are effective at decreasing other women's intentions to poach a taken man (see hypotheses 5 and 6, which are discussed later).

STUDY 1: WHAT WOMEN INFER FROM LUXURY PRODUCTS

Study 1 examined whether other women infer information about a woman's relationship partner based on the luxuriousness of her possessions. Consistent with hypothesis 1, we hypothesized that a woman with luxurious possessions should be perceived by other women as having a more devoted partner compared to a woman with less luxurious possessions.

Method

Participants and Design. Sixty-nine female participants ($M_{\text{age}} = 32.57$, $SD = 12.12$) were recruited from MTurk. Participants were randomly assigned to one of two between-subjects conditions: (1) designer products and (2) non-designer products.

Procedure. Everyone read a brief description of a woman who was at a party with her date. The descriptions were

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identical in both conditions, except that each one included a different description of the woman's outfits and accessories. In the designer product condition, the woman was described as wearing a "designer brand outfit and accessories." In the nondesigner product condition, she was described as wearing a "nondesigner brand outfit and accessories."

Dependent Measures. Everyone answered two questions about the woman's relationship partner's devotion to her. Specifically: "How committed do you think the man is to the woman?" and "How much do you think the man loves the woman?" Responses were provided on a 7-point scale, with 1 = not at all and 7 = very much. The two items formed a devotion index ($\alpha = .91$), with higher numbers indicating a stronger devotion.

Results and Discussion

Consistent with hypothesis 1, findings showed that a woman was perceived as having a more devoted partner when she had designer compared to nondesigner outfit and accessories ($M = 5.40$ vs. 4.82 ; $t(67) = 2.01$, $p = .048$, $d = .24$). Just as the majority of women have a lay belief that luxury goods can indicate how much their partner is devoted to them (see the pilot study above), study 1 shows that other women infer that a man is more devoted to his partner when she has luxurious products.

STUDY 2: MATE GUARDING AND THE SIZE OF LUXURY BRAND LOGOS

Study 2 examined whether experimentally activating a motive to guard a mate would trigger women's desire for conspicuous luxury products. Past research has found that the desire for conspicuous goods is related to the size of product brand logos, whereby seeking larger logos indicates greater desire for conspicuous consumption (Lee and Shrum 2012; Nunes, Drèze, and Han 2011). Thus, after eliciting a motive to guard a mate, women were given the opportunity to draw luxury brand logos on a handbag, shoe, car, and T-shirt that they would want to purchase. The dependent measure was the size of the logo women drew for each product. Consistent with hypothesis 2, we predicted that a mate guarding motive would lead women to draw larger luxury brand logos.

Method

Participants and Design. One hundred and thirty-seven female students ($M_{\text{age}} = 22.22$, $SD = 3.6$) from the University of Minnesota participated in the study in exchange for partial course credit or \$8. Participants were randomly assigned to one of four between-subjects conditions: (1) mate guarding, (2) mate attraction, (3) neutral control, and (4) negative affect control. Although both the mate attraction and the mate guarding conditions involved a romantic partner, the mate attraction condition was not expected to elicit

a desire for conspicuous luxury goods for women, consistent with past research (Griskevicius et al. 2007; Sundie et al. 2011). We also included two separate control conditions to rule out possible alternative explanations based on affect and arousal.

Procedure. Participants came to the lab and were seated in individual rooms with a table and a computer. Participants were told that the study involved multiple unrelated studies and would involve several different tasks. The first task involved reading a short story and providing some feedback on the story. The second task involved brand preferences.

The mate guarding and mate attraction manipulations were based on short stories about 800 words in length that have been used to elicit mating motives (Griskevicius, Cialdini, and Kenrick 2006; Griskevicius et al. 2009; Li et al. 2012). Women in the mate guarding condition imagine that they are at a party with their date. While at the party, the woman decides to get a drink on the other side of the room. As she waits in line for the drink, she notices that another woman has started flirting with her date.

Women in the mate attraction condition imagined that they are single and on vacation. While on the trip, the woman meets an attractive man. As they enjoy wonderful conversation, a romantic dinner, and a moonlight kiss, the woman finds herself strongly attracted to this man.

Participants in the neutral control condition read a story similar in length about the process of doing laundry (Griskevicius, Shiota, and Nowlis 2010). Participants in the negative affect control condition read a story similar in length about looking for lost keys.

Manipulation Pretests. To ensure that the manipulations elicited the expected levels of negative affect and arousal, a separate sample of 64 participants underwent one of the four manipulations using the same procedure. After reading one of the four stories, participants indicated the extent to which they felt (a) negative and bad, (b) tense and nervous, (c) jealous, and (d) protective of your romantic partner. Responses were provided on 0–6 point scales with 0 = not at all and 6 = very much.

As depicted in table 1, the mate guarding and the negative control conditions led people to feel significantly more negative affect than the neutral control or the mate attraction conditions (all $p < .003$). The mate guarding and the negative control conditions also led people to feel significantly more negative arousal than the neutral control or the mate attraction condition (all $p < .001$). However, the mate guarding and the negative control conditions did not differ from each other in the levels of negative affect ($p = .92$) or negative arousal ($p = .96$). Finally, the mate guarding condition elicited significantly more feelings of jealousy and feelings of being protective of your romantic partner compared to mate attraction condition (all $p < .001$), negative control condition ($p < .001$), and neutral control condition ($p < .001$). Thus, each of the manipulations elicited the expected feeling and expected levels of negative affect and arousal.

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Size of Luxury Brand Logos. To assess desire for conspicuousness, participants considered that they were buying four different products: (1) designer handbag, (2) dress shoes, (3) T-shirt, and (4) sports car. To enable women to select their preferred brand for each type of product, participants selected their favorite of three possible brands for each product: designer handbag (Louis Vuitton, Gucci, or Chanel), shoes (Chanel, Tory Burch, or Gucci), T-shirt (Versace, Burberry, or Chanel), and sports car (Porsche, Lamborghini, or Ferrari). These specific brands were provided as options because they are considered luxury brands and are desirable to the study population. Women's choice of brand did not differ as a function of the manipulation.

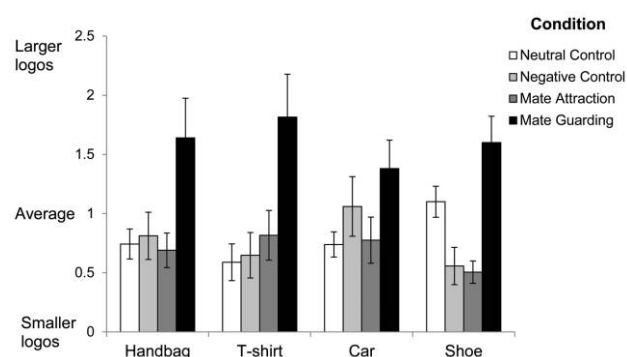
After choosing a brand for each product, women were given a pencil and a letter-size picture of a plain and unbranded handbag, shoe, T-shirt, and car front (see appendix). For each product, participants were asked to draw the logo on the product. Women were told that they could draw the entire logo or just draw a square outline of the logo, and that the logo could be as small or as large as they liked. The dependent measure was the size of the logo drawn on each product, with larger logos indicating a desire for more conspicuous products.

Logo size was measured by overlaying a grid over the page and calculating the area of each drawn logo in square centimeters. Because each product had a different amount of space on which the logo could be drawn (see appendix), the average size of the logos varied for each product, with women drawing larger logos on the handbag ($M = 10.87 \text{ cm}^2$) and T-shirt ($M = 9.31 \text{ cm}^2$), while drawing smaller logos on the shoe ($M = 4.43 \text{ cm}^2$) and car ($M = 2.45 \text{ cm}^2$). Because we were interested in how the size of the logo might differ depending on the condition in the experiment, we standardized the sizes of the logos within each product for the analyses.

Results and Discussion

We first examined the effect of motives on the average logo size of the four products together. An ANOVA revealed a main effect of motive ($F(3, 136) = 10.55, p < .001, \eta^2 = .19$). As predicted, women in the mate guarding condition drew significantly larger logos than women in the mate attraction condition ($M = 1.61$ vs. $.70; t(133) = -11.80, p < .001, \eta^2 = .51$), the neutral control condition ($M = .79; t(133) = -4.47, p < .001, \eta^2 = .13$), and the negative arousal control condition ($M = .77; t(133) = 4.26, p < .001, \eta^2 = .12$). Furthermore, the mate attraction, neutral control, and negative arousal control conditions did not differ from each other (all $p > .73$).

FIGURE 1
DESIRED SIZE OF WOMEN'S LUXURY BRAND LOGOS FOR VARIOUS PRODUCTS DEPENDING ON WHETHER THE WOMEN ARE MOTIVATED TO GUARD THEIR CURRENT MATE (STUDY 2)



NOTE.—Means reflect standardized logo sizes within each product.

.001, $\eta^2 = .12$). Furthermore, the mate attraction, neutral control, and negative arousal control conditions did not differ from each other (all $p > .73$).

We also performed ANOVAs for each product separately, which revealed the same pattern for each of the four products (see fig. 1). For each product, women in the mate guarding condition drew larger logos than in the neutral control condition: handbag ($t(133) = 2.93, p = .004, \eta^2 = .06$), T-shirt ($t(133) = 3.60, p < .001, \eta^2 = .08$), shoe ($t(133) = 2.24, p = .02, \eta^2 = .03$), car ($t(133) = 2.42, p = .02, \eta^2 = .04$). Women in the mate guarding condition also drew larger logos than in the negative arousal control condition, although one of the products failed to reach conventional levels of significance: handbag ($t(133) = 2.50, p < .001, \eta^2 = .94$), T-shirt ($t(133) = 3.17, p = .002, \eta^2 = .07$), shoe ($t(133) = 4.37, p < .001, \eta^2 = .12$), car ($t(133) = 1.11, p = .26$). Finally, the mate attraction condition did not significantly influence women's desire for conspicuous consumption when compared to either control or the mate guarding condition, consistent with past research (Griskevicius et al. 2007; Sundie et al. 2011).

In summary, study 2 found that a mate guarding motive increased women's desire for conspicuous consumption, as

TABLE 1
FEELINGS ELICITED BY EACH OF THE FOUR MANIPULATIONS (STUDY 2)

Feeling	Neutral control	Negative control	Mate attraction	Mate guarding
Negative and bad (negative affect)	1.13 (2.03) ^a	3.11 (2.13) ^b	.35 (0.95) ^a	3.17 (1.91) ^b
Tense and nervous (negative arousal)	.89 (1.86) ^a	3.92 (1.69) ^b	1.65 (2.01) ^a	3.96 (1.33) ^b
Jealous	.58 (0.96) ^a	.50 (1.40) ^a	.88 (1.76) ^a	3.79 (2.04) ^b
Protective of romantic partner	.58 (1.12) ^a	.36 (0.93) ^a	1.17 (1.87) ^a	3.65 (2.09) ^b

NOTE.—All superscripts represent significance of comparisons within a row.

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measured by wanting larger luxury brand logos. A mate guarding motive led women to draw luxury brand logos that were about twice the size compared to those in the other conditions (see fig. 1), and the effect of mate guarding persisted even when compared to control conditions that elicited similar levels of negative affect and arousal.

STUDY 3: CONSPICUOUS VERSUS NONCONSPICUOUS PRODUCTS

Study 3 sought to conceptually replicate and extend the finding that a mate guarding motive triggers women's desire for conspicuous luxury products. First, to ensure robustness of the finding, study 3 used a different method to elicit a mate guarding motive that involved writing. In addition, study 3 sought to test whether a mate guarding motive leads women to desire conspicuous luxury possessions in particular or to simply seek more expensive products in general. Consistent with hypothesis 3, we predicted that mate guarding should lead women to seek publicly conspicuous luxury products but not less conspicuous products used privately.

Finally, study 3 sought to experimentally rule out several potential alternative explanations. First, to rule out the possibility that the effect of mate guarding might be driven by the mere presence of another woman (even though she is not a romantic threat), one control condition included the presence of another woman. Second, to rule out the possibility that the effect is driven by a threat to one's self-esteem, a second control condition involved a self-esteem threat. We predicted that a mate guarding motive would elicit a significantly higher level of desire for conspicuous luxury goods when compared to either control condition.

Method

Participants and Design. One hundred and fifteen female participants ($M_{\text{age}} = 33.01$, $SD = 12.08$) were recruited from MTurk. The study had a 3 (condition: mate guarding vs. female control vs. self-esteem control) $\times$ 2 (product type: conspicuous vs. nonconspicuous) mixed design. Condition was a between-subjects factor and product type was a within-subject factor. Participants were told that because the study was interested in several different things, they would be completing a series of different tasks. The first task involved reading and visualization, while a later task involved product preferences.

Procedure. Participants were randomly assigned to one of the three guided visualization conditions adapted from previous research (Maner et al. 2007, 2009). Each manipulation involved a series of three questions that each prompted participants to write a brief response.

In the mate guarding condition, participants imagined they were at a party with their romantic partner. At the party, several other women began talking to and laughing with her partner. At this point, participants were asked to write a few sentences about how they envision the situation and how they would feel. Next, participants imagined that one woman

began to intentionally flirt with their romantic partner. Participants were again asked to write how they would envision the situation and how they would feel. Finally, participants imagined that they saw the other woman trying to kiss their partner at the party. Participants were then asked to write for the third and final time how they would envision the situation and how they would feel.

In the female control condition, the instructions were parallel to the mate guarding condition, except that the situation did not involve flirting. First, participants imagined that they were at a party and were asked to write a few sentences about how they would feel. Participants then imagined that they noticed another woman at the party and decided to go talk to her. After writing a few more sentences, participants imagined having a conversation with the other woman and wrote about how they would feel and envision the situation.

Participants in the self-esteem threat control condition imagined that they were taking an important test that was a big part of their work performance evaluation. Their boss asked to see them about the test, and participants wrote about how they would feel. Next, participants imagined that their boss told them they did poorly on the test and wrote about how they would feel. Finally, participants imagined that their boss told them they were unlikely to pass the test and that there was nothing that could be done.

Manipulation Pretest. To ensure that the manipulations produced the expected level of self-esteem threat, a separate sample of 101 participants underwent one of the three manipulations using the same procedure as in the study. After undergoing each of the three procedures, participants indicated the extent to which their self-esteem felt threatened by responding to five items ($\alpha = .98$): "How much would this (1) be a blow to your ego, (2) make you feel worthless, (3) lower your self-esteem, (4) decrease your morale, (5) lower your self-respect?" Responses were provided on a 1–7 scale with 1 = not at all and 7 = very much.

Analyses revealed that participants in the self-esteem threat condition felt significantly more self-esteem threat than in the female control condition ($M = 4.91$ vs. 1.91 ; $t(98) = 10.77$, $p < .001$). However, participants in the self-esteem threat condition felt a similar level of threat to their self-esteem as in the mate guarding condition ($M = 4.91$ vs. 4.81 ; $p = .78$).

Dependent Measures. To assess desire for expensive luxury products, participants responded to items adopted from previous research (Griskevicius et al. 2007; Sundie et al. 2011). The items focused on spending relative to peers, asking: "Compared to your peers, how much money would you spend on . . . ?" Responses were provided on a 9-point scale, with 1 = much less than the average, 5 = average, and 9 = much more than the average.

Participants indicated how much they would spend on three products that are easy to observe in public and often used for conspicuous consumption: car, shoes, and jewelry. These were aggregated to form a conspicuous consumption index ($\alpha = .78$). In addition, participants indicated how

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much they would spend on three products that are often less publicly visible and generally not used in conspicuous consumption: alarm clock, kitchen knife, and washing machine. These were aggregated to form a nonconspicuous consumption index ($\alpha = .61$).

Results and Discussion

An omnibus ANOVA revealed a marginally significant interaction with condition and product type ($F(2, 112) = 2.63, p = .07, \eta^2 = .045$). To test our specific hypotheses, we performed a series of planned contrasts. As depicted in figure 2, participants in the mate guarding condition sought to spend significantly more on conspicuous consumption products than participants in the female control condition ($M = 5.12$ vs. 4.21 ; $t(112) = 2.35, p = .02$) or those in the self-esteem threat condition ($M = 5.12$ vs. 4.37 ; $t(112) = 2.01, p = .04$). However, mate guarding did not alter spending on nonconspicuous products (all $p > .65$).

In summary, despite varying the method of how a mate guarding motive was elicited, study 3 conceptually replicated the key finding from study 2, showing that a mate guarding motive triggers women's desire for conspicuous luxury products. In addition, study 3 showed that mate guarding does not simply lead women to want any product but is instead specific to products used for publicly visible conspicuous consumption. Finally, study 3 ruled out two possible alternative explanations for the effect of mate guarding, showing that this effect is not driven by threat to one's self-esteem or by the mere presence of another woman.

STUDY 4: INTENDED AUDIENCE OF WOMEN'S LUXURY DISPLAYS

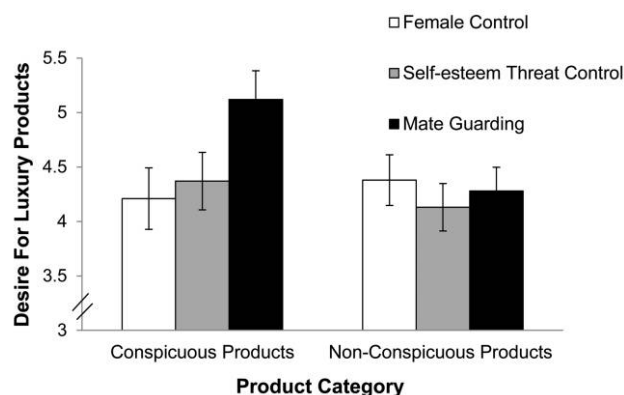
Study 4 examined an important boundary condition for when a mate guarding motive should and should not lead women to seek conspicuous luxury products. If women's conspicuous possessions function to help ward off romantic female rivals, the intended audience of such displays should be women who pose a threat to the relationship. Study 4 therefore tested whether a mate guarding motive would not trigger women's desire for luxury products when such goods could not be seen by romantic rivals. Consistent with hypothesis 4, we predicted that a mate guarding motive should lead women to seek conspicuous luxury goods only when the products can be seen by other women who pose a threat to the relationship. In addition, study 4 also examined whether mate guarding would alter women's choices to spend actual money to win a \$200 gift card for a luxury spending spree.

Method

Participants and Design. Seventy-five female undergraduate students from the University of Minnesota ($M_{\text{age}} = 20.40, SD = 1.88$) participated in the study in exchange for partial course credit. Participants were randomly assigned to one of the three between-subjects conditions: (1)

FIGURE 2

WOMEN'S DESIRE FOR CONSPICUOUS AND NONCONSPICUOUS LUXURY PRODUCTS WHEN WOMEN ARE MOTIVATED TO GUARD A MATE (STUDY 3)



mate guarding—female audience, (2) mate guarding—male audience, and (3) control (see appendix for all manipulations).

Procedure. For both of the mate guarding conditions, the procedure was similar to the mate guarding manipulation in study 3, in which participants were given a series of prompts to write about their feelings. Women first imagined that they were at a party with their date, where several women began flirting with their date. After writing about how this would make them feel, participants imagined that they went off by themselves to go get a drink. While waiting in line for a drink, the participant saw one of the other women at the party trying to kiss her date on the other side of the room. This prompted participants to again write about how they would feel.

The key difference between the two conditions occurred in the third and final prompt. In the female audience condition, the other woman who had been flirting with the date began walking toward the participant, and the two women found themselves alone together. Thus, the audience for the participant's behavior in this condition involved the woman who posed a threat to the relationship. By contrast, in the male audience condition, the other woman who had been flirting with the date had gone elsewhere, and the participant found herself back next to her partner. Thus the audience for the participant's behavior in this condition was her male partner.

In the control condition, participants underwent a series of prompts designed to produce similar levels of anxiety and self-esteem threat as the mate guarding manipulations, whereby participants imagined failing an important exam. This manipulation was adopted from Maner et al. (2009), where it elicited similar levels of anxiety as the mate guarding manipulation.

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Dependent Measures. The main dependent measure involved how much participants paid to win a gift card for a luxury shopping spree. Participants were told that in order to thank them for participating in the study, they were being given \$5, which was provided to them in \$1 bills. Participants were then given the opportunity to spend some or all of this money to purchase raffle tickets to win a \$200 spending spree to their choice of any of the following eight luxury brand stores: Nordstrom, Neiman Marcus, Burberry, Coach, Tiffany, Bose, Sunglass Hut, and Boss. These luxury brand stores were chosen because they are desirable and popular among undergraduate women. Participants were told that each raffle ticket cost \$1, whereby the more raffle tickets a person purchased, the higher the chance of winning the \$200 spending spree. The dependent measure consisted of how many dollars participants spent for the possibility of receiving a \$200 gift card to a luxury store.

In addition to the incentive compatible measure, participants completed two other sets of dependent measures regarding conspicuous consumption. The first measure was similar to the relative spending measure in study 3, asking how much participants would spend on four products often used in conspicuous consumption (mobile phone, handbag, dress shoes, and jewelry). These four items were aggregated to form a relative spending index ($\alpha = .78$).

The other set of questions involved asking participants to imagine that they had \$5,000 in their bank account and that they were considering buying the same four products. For each product, participants were asked: "Would you prefer to buy the cheap and basic version of this product or the more luxurious and expensive version of the product?" Responses were provided on a 9-point scale, with 1 = definitely cheap and basic and 9 = definitely luxurious and expensive. The four items were aggregated to form a luxury spending index ($\alpha = .74$).

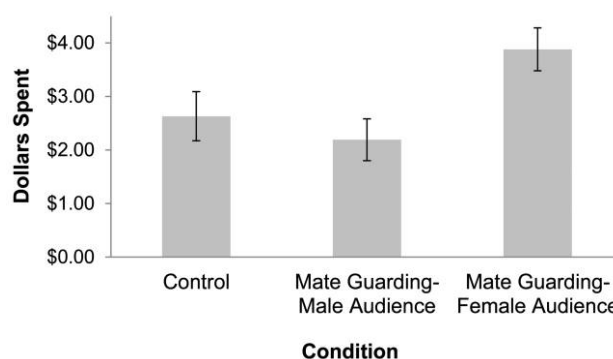
In between the different sets of dependent measures, all participants underwent a manipulation "booster shot" to ensure that they were in the same psychological state as after the manipulation. Participants were told that because the researchers were interested in whether people's visual memories remain accurate over time, participants were asked to think back to what they wrote about earlier (in the manipulation) and to write down again how they envisioned the situation and how they felt.

Results and Discussion

Gift Card. An ANOVA was performed on the dollars participants spent to win the \$200 luxury spending spree. As shown in figure 3, there was a significant main effect of condition ($F(2, 72) = 4.45, p = .02$). Compared to the control condition, women spent significantly more of their money for the gift card in the mate guarding condition, but only when the audience was female ($M = \$3.88$ vs. $\$2.19$; $t(72) = 2.90, p = .04, \eta^2 = .10$). There was no difference in spending between the control condition and the mate guarding condition when the audience was male ($M = \$2.19$ vs. $\$2.62$; $p = .45$).

FIGURE 3

NUMBER OF DOLLARS WOMEN SPENT FOR CHANCE TO WIN A \$200 LUXURY SPENDING SPREE AS FUNCTION OF MATE GUARDING MOTIVE AND THE AUDIENCE WHO WOULD SEE THE PRODUCTS (STUDY 4)



Other Dependent Measures. The same pattern of results emerged for both of the other conspicuous consumption measures. For relative spending, an ANOVA revealed a significant main effect of condition ($F(2, 72) = 4.66, p = .01, \eta^2 = .32$). Compared to the control, women spent more in the mate guarding condition when the audience was female ($M = 6.16$ vs. 4.80 ; $t(72) = 2.33, p = .02, \eta^2 = .07$), but not when the audience was male ($M = 5.09$ vs. 4.80 ; $p = .53$). For luxury spending, an ANOVA also revealed a main effect of condition ($F(2, 72) = 6.89; p = .002, \eta^2 = .16$). Compared to the control, women again spent more in the mate guarding condition when the audience was female ($M = 6.54$ vs. 4.96 ; $t(72) = 3.51, p = .001, \eta^2 = .15$), but not when the audience was male ($M = 5.20$ vs. 4.96 ; $p = .44$).

In summary, study 4 found that activating a mate guarding motive once again led women to seek luxury products. When women felt that their romantic relationship was threatened, they not only desired to spend more on designer handbags and shoes, but they also actually spent more money for a chance to win a real \$200 luxury spending spree. Importantly, women sought conspicuous goods only when the products could be seen by another woman who posed a potential threat to her romantic relationship. Although this findings cannot rule out the possibility that women failed to seek luxury goods in the male audience condition due to feelings of shame or distress, the null finding in the male audience condition is consistent with past research showing that women do not seek conspicuous products when motivated to attract a mate (Griskevicius et al. 2007; Sundie et al. 2011). Furthermore, the fact that women did not increase their desire for luxury goods when another woman could not see the expensive products is consistent with the idea that women's flaunting of designer goods is intended as a signal to other women rather than men.

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STUDY 5: ARE LUXURY PRODUCTS EFFECTIVE AT MATE GUARDING?

Study 5 tested whether women's luxury products are effective at deterring would-be mate poachers. According to our model, when other women see a woman with luxurious possessions, they infer that her partner is more devoted to her (see study 1). This increased perception of devotion likely stems from a specific assumption: when other women see a woman with luxurious products, they assume that the man has contributed some resources to her possessions.

To test whether women actually make this assumption, 59 women from Mturk ($M_{\text{age}} = 32.86$, $SD = 12.32$) read the description from study 1 about a woman and her date at a party where she was sporting designer products. Participants were then asked to indicate what percentage of the money for the woman's designer products came from the man versus the woman. Consistent with our model, findings showed that women spontaneously assumed that the man had paid, on average, for more than half (58%) of the woman's products.

When there is no explicit information about who paid for a woman's luxury products (as would be the case most of time), other women assume that the relationship partner contributed substantial resources to the woman's luxury possessions. However, our model suggests that if other women are explicitly told that the man did not contribute any resources to the woman's possessions, other women should no longer infer that her partner is devoted to her. Thus study 5 examined a boundary condition of the devotion effect, testing whether a woman's luxurious products would not signal increased devotion by her partner when the audience is explicitly informed that the partner did not contribute any resources to those products. Formally:

H5: A woman with luxurious possessions should be perceived by other women as having a more devoted partner, unless those other women are explicitly informed that the male partner has not contributed any resources to her luxury possessions.

Finally, study 5 tested whether women's luxury products are effective at deterring would-be mate poachers. That is, are other women less likely to pursue a man in a relationship when his partner has luxurious possessions? Many women, of course, would never consider pursuing a taken man, so it is important to first identify women who might consider pursuing men in relationships. The relationships literature shows that individuals who are most likely to poach a mate follow a particular mating strategy (Simpson 1992; Simpson and Gangestad 1991). A given person's mating strategy lies on a continuum that varies from a long-term strategy (e.g., seeking one committed partner) to a short-term strategy (e.g., seeking many sexual partners). Like men, women vary considerably in their mating strategy, with women following a short-term mating strategy being much more likely to have an affair across cultures (Schmitt 2005).

We hypothesized that because a woman's luxurious possessions can signal a man's devotion, such possessions should therefore be effective at guarding relationships by decreasing other women's willingness to poach the relationship partner. Thus, we predicted that women who would consider poaching a taken man—women following a short-term mating strategy—should be less willing to pursue the taken man when his partner has luxury products (unless, of course, the other women are explicitly informed that the man has contributed nothing to those products). In addition, we predicted that this effect should be mediated by perceptions of the man's devotion to his partner. Formally:

H6a: Women following a short-term mating strategy should be less willing to pursue a taken man if his partner has luxurious products (unless the other women are explicitly informed that the man has contributed nothing to those products).

H6b: Women's decreased willingness to poach a taken man when his partner has luxurious products should be mediated by their perceptions of the man as more devoted to his relationship partner.

Method

Participants and Design. One hundred and seventy-seven female participants ($M_{\text{age}} = 34.5$, $SD = 13.2$) were recruited from MTurk. The study had a 2 (woman's products: luxury vs. nonluxury) $\times$ 2 (person paying for products: man vs. woman) between-subjects design.

Procedure. All participants read a brief description of a woman at a party with her date. The descriptions were identical in all four conditions, except that each description included different information about (1) the luxuriousness of the woman's products (handbag and jewelry) and (2) who had paid for those products.

In the luxury product condition, the woman was described as carrying a "luxury designer handbag" and wearing "expensive jewelry." By contrast, in the nonluxury product condition, she was described as carrying an "unbranded handbag" and wearing "inexpensive jewelry."

In the man paid condition, it was noted that the handbag and jewelry were gifts from the man. By contrast, in the woman paid condition, it was noted that the woman paid for the handbag and jewelry herself (see appendix for full descriptions).

Man's Devotion to Partner. We hypothesized that if the man paid for his partner's luxury products, this should lead other women to perceive that the man is more devoted to his partner. To assess perceptions of the man's devotion to his partner, participants responded to the following three items: "How much do you think the man loves the woman?" "How much do you think the man cares for the woman?" "How much do you think the man and woman love each other?" Responses were provided on a 7-point scale, with 1 = not at all and 7 = very much. The three items were

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averaged to form a devotion index ($\alpha = .94$), which constituted the psychological mediator in the study.

Willingness to Pursue a Taken Man. To assess women's willingness to pursue the taken man described in the scenario, participants were asked to "Imagine you are single and you find yourself attracted to this man." Participants then responded to three items: "How likely would you be to: (1) go after him, (2) try to pursue him, and (3) seduce him?" Responses for each item were provided on a 7-point scale with the endpoints labeled "not at all" and "very much." The three items were averaged to form an intention-to-pursue index ($\alpha = .95$), which constituted the main dependent measure in the study.

Women's Mating Strategy. Because women adopting a long-term mating strategy are unlikely to pursue a taken man, we predicted that luxury products would be primarily effective at dissuading women from pursuing a taken man when those women are following a short-term mating strategy. To assess mating strategy, we used the attitude items from the Sociosexual Orientation Inventory (SOI; Simpson 1992; Simpson and Gangestad 1991), which is the most commonly used and well validated measure of mating strategy (e.g., Sundie et al. 2011). Participants indicated to what extent they disagree or agree with three statements: (1) "I can imagine myself being comfortable and enjoying casual sex with different partners"; (2) "I could easily imagine myself enjoying one night of sex with someone I would never see again"; and (3) "I believe in taking sexual opportunities when I find them." Responses were provided on a 7-point scale with 1 = strongly disagree and 7 = strongly agree. Items were averaged to form a mating strategy index ($\alpha = .93$), with scores mean-centered for the regressions analyses.

Additional Measures. Finally, to address alternative explanations, we asked participants how desirable they found the man as a romantic partner: "How attractive/desirable do you think this man is?" Participants also indicated their perceptions of the woman's confidence using three items ($\alpha = .82$): "How confident/assertive/dominant do you think this woman is?" Responses were provided on a 7-point scale with 1 = not at all and 7 = very much.

Results and Discussion

Man's Devotion to Partner. We predicted that other women should perceive a woman sporting luxury products as having a more devoted partner, except when it is known that her partner had not contributed anything to the products. A regression analysis with product type, person paying, and mating strategy (mean centered) revealed the predicted interaction between product type and person paying ($\beta = .48$, $t(169) = 3.01$, $p = .003$). As depicted in figure 4, when the woman was wearing luxury products, other women perceived her partner to be more devoted when the products were purchased by him rather than by her ($M = 5.32$ vs. 4.38; $t(169) = -4.13$, $p < .001$). In fact, a woman's wearing

FIGURE 4

OTHER WOMEN'S PERCEPTIONS OF A MAN'S DEVOTION TO HIS WOMAN BASED ON THE LUXURIOUSNESS OF HER PRODUCTS, WHICH WERE PURCHASED EITHER BY HIM OR BY HER (STUDY 5)



of luxury rather than nonluxury products significantly increased other women's perceptions of her partner's devotion when the man paid for the products ($M = 5.32$ vs. 4.86; $t(169) = -2.11$, $p = .03$). However, when the women were told that the man had not paid for any of the products, luxury products significantly decreased other women's perceptions of the man's devotion ($M = 4.38$ vs. 4.88; $t(169) = 2.14$, $p = .033$). Taken together, other women saw the man as being most devoted when the woman was wearing luxury products that were purchased by the man. And as expected, mating strategy did not influence perceptions of the man's devotion (all $p > .6$), although mating strategy is predicted to influence whether women act on their perceptions, as we discuss next.

Willingness to Pursue a Taken Man. When the man paid for his partner's luxury products, those products should decrease other women's intention to pursue the man for other women following a short-term mating strategy. Consistent with this prediction, a regression with product type, person paying, and mating strategy (mean centered) revealed a three-way interaction ($\beta = -.44$, $t(169) = -4.36$, $p < .001$). To test our specific predictions, we performed spotlight analyses for women following a long-term mating strategy (1 SD below the mean) and short-term mating strategy (1 SD above the mean; Aiken and West 1991; Fitzsimons 2008). As depicted in figure 5, for women following a long-term mating strategy, neither type of product nor who paid for the product had any significant effect on willingness to pursue the taken man. As would be expected, an inspection of the means showed that women following a long-term mating strategy were generally uninterested in pursuing the taken man.

In contrast to women following a long-term mating strategy, women following a short-term mating strategy showed the predicted product type $\times$ person paid interaction ($t(169) = 4.61$, $p < .001$). As depicted in figure 5, these women were significantly less likely to pursue the man of a woman

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FIGURE 5

WOMEN'S LIKELIHOOD TO PURSUE A MAN IN A RELATIONSHIP DEPENDING ON WHETHER HIS RELATIONSHIP PARTNER IS WEARING LUXURIOUS VERSUS NONLUXURIOUS PRODUCTS, WHICH WERE PURCHASED EITHER BY HIM OR BY HER (STUDY 5): FINDINGS FOR WOMEN FOLLOWING A SHORT-TERM MATING STRATEGY (+1 SD; LEFT PANEL); FINDINGS FOR WOMEN FOLLOWING A LONG-TERM MATING STRATEGY (−1 SD; RIGHT PANEL)



wearing luxury products when the man had paid for the products ($M = 3.97$ vs. 2.23 ; $t(169) = 4.50$, $p < .001$). Specifically, whereas wearing luxury versus nonluxury products significantly increased other women's willingness to pursue the man when they were explicitly informed that the woman had paid for the products ($M = 3.97$ vs. 2.21 ; $t(169) = -4.48$, $p < .001$), wearing luxury versus nonluxury products significantly decreased other women's willingness to pursue the man when the man had paid for the products ($M = 2.22$ vs. 3.01 ; $t(169) = 2.02$, $p = .04$). In fact, when the woman wore luxury products purchased by her partner, women following a short-term mating strategy were not any more willing to pursue her relationship partner than women following a long-term mating strategy ($M = 2.22$ vs. 1.91 ; $p = .39$).

Mediation Analysis. The findings thus far indicate that other women infer that a man is more devoted to his partner when she has luxurious possessions for which he paid. Other women make this inference about the man's devotion regardless of their mating strategy, although only women following a short-term mating strategy decrease their intentions to pursue the taken man, since women following a long-term mating strategy are already at floor levels regarding pursuing a taken man regardless of the situation.

We therefore hypothesized that the effect of a woman's luxury products on other women's willingness to pursue her relationship partner should be mediated by other women's perceptions of the man's devotion to the woman. In other words, we expected that women's decreased poaching intentions would be mediated by their perception that the man is more devoted to his partner when she is sporting luxurious products for which he paid. Because this predicted mediation effect should be moderated by (a) product type (luxury vs.

nonluxury), (b) person paying (man vs. woman), and (c) other women's mating strategy (short-term vs. long-term), the appropriate analysis is moderated mediation.

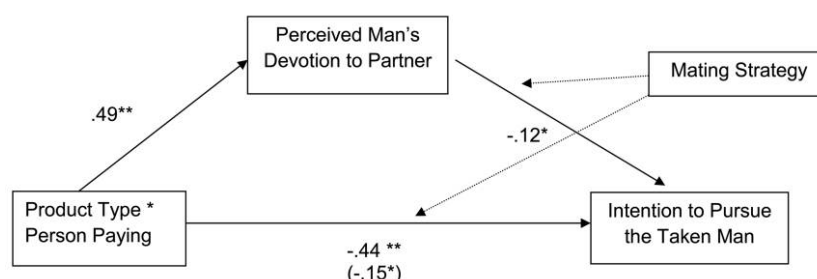
A visual representation of the moderated mediation model is depicted in figure 6. As reported earlier, the interaction between product type and person paying predicted perceived man's devotion to partner, which is the mediator (path a: $\beta = .49$, $t(173) = 3.02$, $p = .003$). Furthermore, the interaction between perceived man's devotion to partner and other women's mating strategy predicted intention to pursue the taken man, which is the outcome measure (path b: $\beta = -.12$, $t(173) = -2.52$, $p = .01$). Thus, we used bootstrapping (Preacher and Hayes 2008) to test for moderated mediation (Hayes 2012, model 15).

The moderated mediation analysis was based on two separate multiple regression models. The first model included product type, person paying, mating strategy, and all the interaction terms as the independent variables, and intention to pursue as the dependent variable. This model revealed a significant three-way interaction, indicating that there was a moderation effect to be mediated (path c: $\beta = -.44$, $t(169) = -4.36$, $p < .001$). As depicted in Hayes (2012, model 15), the predictors in the second model included the interaction between product type and person paying (with product type and person paying entered as covariates), man's devotion, and mating strategy with all interactions; the dependent variable was intention to pursue. This model revealed a significant conditional direct effect on intention to pursue for women following a short-term strategy (1 SD above the mean of SOI, $t = -2.51$, $p = .01$). Importantly, a 20,000 resamples bootstrap indicated that this conditional direct effect on intention to pursue was mediated by per-

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FIGURE 6

MODERATED MEDIATION MODEL SHOWING THAT A WOMAN'S LUXURY PRODUCTS DECREASE OTHER WOMEN'S INTENTION TO POACH HER PARTNER BECAUSE THEY PERCEIVE HIM TO BE MORE DEVOTED TO HER (STUDY 5)



ceived man's devotion to partner (95% bias corrected, CI = $-.3654, -.0486$).

Additional Analyses. We examined whether women's willingness to pursue a taken man was related to the man's desirability as a romantic partner. When it came to the man's desirability, the only significant effect showed that women saw the man as more desirable when his date wore luxury products compared to nonluxury products ($M = 5.01$ vs. 4.28 ; $F(1, 173) = 16.27, p < .001$). Importantly, women did not rate the man as significantly more desirable when his date's luxury products were purchased by him or by her ($M = 5.19$ vs. 4.81 ; $p = .14$). After all, the fact that a woman is choosing to be with a man who is not contributing to her materially might suggest there is something else desirable about this man. However, given that women saw the man as similarly desirable when his date had luxury products (regardless of who paid for them), but women were only less willing to pursue the man when the man (but not the woman) had paid for her luxury products, suggests that women's willingness to pursue the taken man were not driven by the man's desirability as a romantic partner.

Finally, we examined whether a woman's luxury products might dissuade other women from pursuing her relationship partner because she might be seen as more confident. Findings showed that the woman was indeed seen as more confident when she had luxury products ($M = 5.38$ vs. 4.67 ; $F(1, 173) = 18.56, p < .001$). However, she was perceived as equally confident regardless of whether her luxury products were purchased by her or her male partner ($M = 5.37$ vs. 5.39 ; $p = .92$). Thus, perceptions of confidence alone cannot account for why a woman's luxury products function to guard her mate. Instead, the more likely explanation is that luxury products were successful at mate guarding because they led other women to perceive more devotion from the man, which mediated the effect on decreased intentions to pursue him.

Discussion

In summary, study 5 showed that a woman's luxury products can effectively dissuade other women from poaching

her romantic partner. Other women who would consider pursuing a taken man (women following a short-term mating strategy) were less willing to pursue him if his partner had a luxurious designer handbag and expensive jewelry. This effect was driven (mediated) by other women's perceptions of the man as more devoted to his partner when she had luxury products. Importantly, the woman's luxury products were not effective at guarding her mate when other women were explicitly told that the man had not contributed resources to her products. Consistent with the earlier finding that in ambiguous situations women spontaneously assume that the man paid for more than half (58%) of a woman's luxury products, luxury products are effective at mate guarding for women because other women generally assume that a romantic partner has devoted at least some resources to his partner's products.

GENERAL DISCUSSION

The current research asked the following question: Why do women desire luxury goods? Past research has shown that luxury products can function to boost self-esteem, express identity, and signal status. We proposed that women's luxury products also serve a very different function: women's luxury products function as signals directed specifically to other women, and these signals communicate important information about a woman's relationship. Specifically, we hypothesized that some women use pricey possessions to signal to other women that their romantic partners are devoted to them. In turn, flaunting designer handbags and shoes should help women deter rivals from poaching their relationship partner.

Five studies provided converging evidence for the idea that women's luxury products function as a signaling system directed at other women who pose threats to their romantic relationships. First, more than half of women reported having a lay belief that their own luxury products can signal to other women how much their partner is devoted to them. In turn, a woman sporting luxurious possessions was perceived by other women as having a more devoted partner.

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Consistent with women's conspicuous luxury products serving to guard relationships, merely activating a motive to guard a mate triggered women's desire to seek and display luxury products. When women's romantic relationships were threatened, women sought more expensive designer handbags, cars, mobile phones, and shoes. A mate guarding motive also led women to emblazon their products with larger and more prominent luxury brand logos.

Additional studies revealed that a mate guarding motive led women to specifically seek luxury products that could be conspicuously displayed in public, rather than seeking more expensive products in general. And consistent with the idea that women's luxury products are signals to other women, mate guarding motives triggered women's desire for flaunting designer products specifically when the products could be seen by female rivals.

Finally, we found that a woman's luxury products can effectively dissuade other women from poaching her romantic partner. Because other women perceive a man as more devoted to his partner when she is sporting pricey products, other women are less willing to pursue him if his partner has a designer handbag and expensive jewelry. Taken together, women's flaunting of luxury possessions functions as a signaling system to female rivals, sending important information to other women and effectively altering their behavior. This research makes a contribution by identifying a novel function of conspicuous consumption, revealing how, why, and when women's luxury products and brands play an important role in relationships.

Implications, Limitations, and Future Directions

The current research suggests that whereas men often display luxury products to the opposite sex, women often seek to flaunt expensive possessions to the same sex. This finding is consistent with men's and women's seemingly differential ability to discern the quality of luxury products owned by the opposite sex. For example, whereas many women are quick to discern whether a man's car, clothing, or home is cheap or expensive, many men are unable to differentiate if a woman's handbag, shoes, or outfit costs \$50 or \$5,000. Men's confusion about women's luxury products makes sense to the extent that women's luxury products are geared as signals to other women rather than men.

Although the current studies show that women's luxury products can function to guard mates, mate guarding is, of course, not the only function of women's conspicuous consumption. Past research shows that luxury goods can function as signals of status, as discussed earlier. The current findings build on this previous work by revealing that luxury products also have important and unique signaling functions in romantic relationships. Lavish possessions for women can convey valuable information about their romantic relationships—the devotion level of their partner—whereby such possessions can serve to guard those relationships from other women. Although the current studies find that luxury products can convey a man's devotion to his partner, future

research is needed to examine why other people infer heightened devotion by a man whose partner has luxurious products.

The current studies demonstrate that products and brands play important and previously unconsidered roles in relationships, presenting novel implications for future research. For instance, consider that luxury products can be conspicuous or inconspicuous (Berger and Ward 2010) and luxury brands can be prominent or nonprominent (Han et al. 2010). Although we find that a motive to guard a mate led women, on average, to amplify the conspicuousness of their luxury possessions, some women might actually seek to tone down conspicuousness. For example, wealthier women following a long-term mating strategy might seek subtle and less conspicuous luxury products. Likewise, although mate attraction motives lead men to amplify product conspicuousness, on average, mate attraction motives might lead some men to tone down conspicuousness. For example, men following a long-term mating strategy might actually seek quieter and less conspicuous luxury products. Future research is poised to examine the many interesting and subtle roles of products and brands in relationships.

A limitation of the current studies is that they did not examine how women behave when their actual relationship is threatened. Although future research is needed, it is notable that the effects of mate guarding motives across studies were similar regardless of whether women were currently single or in committed relationships. This suggests that feelings of jealousy and the psychology of mate guarding can be elicited in women regardless of their current relationship status. Likewise, although the current studies focused on conspicuous consumption for women in relationships, single women also notably engage in conspicuous consumption. Although future research is needed, we suspect that there are important similarities between the desire for luxury products for single and nonsingle women. For instance, just as for women in relationships, single women's conspicuous luxury products are likely to be primarily a signal aimed at other women (e.g., Durante et al. 2011). And just as for women in relationships, single women's luxury products might ultimately be related to mating and deterring rivals. For example, a single woman sporting luxurious possessions might get better access to desirable mates. In this sense, luxury goods for single women might function to deter rivals and pre-guard a potential mate, whereby instead of signaling "back off my current man," lavish possessions might signal to other women "back off my future man." Of course, future research is needed to test this possibility.

Finally, another limitation of the current studies is that they relied on women from one culture—the United States. Given that the tendency to seek and display luxury possessions has persisted across history and human cultures, the fundamental motive to guard and retain a mate is likely to lead women across cultures to guard mates using a variety of tactics, including material possessions. Culture will, of course, play an important role in determining the kinds of possessions women use, such as a Louis Vuitton handbag

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or a conspicuously colored rare garment. In fact, there is reason to believe that mate guarding might have even stronger effects on material displays for women in non-Western cultures because a woman's possessions may be more strongly linked to her mate's resources. That is, whereas we find that men are perceived as paying for about half of a woman's luxury possessions (see study 5), this proportion might be higher elsewhere. To the extent that in other cultures a woman's possessions are perceived to be primarily a man's contributions to the woman, such possessions may be even more effective at mate guarding. Future research is poised to examine how lavish possessions and gifts are in used in relationships across cultures.

Conclusion

Consistent with the current findings, past research finds that women more than men want gifts from their romantic partner (Heilman et al. 2012; Jonason et al. 2012; Joy 2001; Saad and Gill 2003). A recent American survey found that there is one gift that women want to receive more than any other, topping the wish list of fully two-thirds of women (Fox 2012). The gift is not jewelry, clothing, flowers, or anything that is considered romantic. Instead, the most coveted present is a gift card to a luxury store. Why would so many women want this particular gift?

Considering that women's luxury products often serve as signals to other women, gift cards are likely to be a particularly useful present for women in relationships. Although we suspect that women would be more than happy to receive actual luxury products (rather than gift cards) from their partners, men are often clueless about which products, brands, or styles women want. The gift card provides an elegant solution to this problem by essentially allowing women to choose their own presents and ensure that such "gifts" send the right message to other women.

DATA COLLECTION INFORMATION

All the studies were programmed using Qualtrics, and participants were randomly assigned to each condition by Qualtrics. The first author conducted all of the online studies on Amazon's Mturk (study 1, June 2013; study 3, January 2013; study 5, December 2012) and supervised/co-conducted the other studies with research assistants at the University of Minnesota's Carlson School of Management Behavioral Lab (study 2, April 2012; study 4, March 2012). Data were discussed on multiple occasions by both authors. The first author did the majority of data analysis under supervision from the second author.

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APPENDIX

FIGURE A1

PICTURES OF PLAIN AND UNBRANDED PRODUCTS (STUDY 2)

Women Were Given Four Pages With a Page-Size Product Image on Each Page	
Handbag	Shoe
	
T-shirt	Car
	

FIGURE A2

PRODUCTS WITH LOGOS DRAWN BY PARTICIPANTS

Examples of Logos Drawn by Participants (image degradation is due to scanning)	
Handbag Small Logo	Handbag Large Logo
	
T-shirt Small Logo	T-shirt Large Logo
	

Text Used in Manipulations (Study 4)

Mate Guarding—Male Audience.

1. Imagine you are in a relationship. You and your date are at a party. There are a lot of people around and everyone is having a good time. When you go get something to drink, you see that there are a couple of attractive women talking to and laughing with your date.

Please describe how you envision the situation and how you feel:

2. Soon, you discover that one of the women is flirting with your date. She puts her hand on your date's shoulder and leans forward. They both seem to be enjoying the conversation. As they keep talking, the woman leans in to kiss your date.

Please describe how you envision the situation and how you feel:

3. After much flirting, the other woman eventually leaves. At this point your date comes back to find you. You now find yourself next to your date.

Please describe how you envision the situation and how you feel:

Mate Guarding—Female Audience.

1. You and your date are at a party. There are a lot of people around and everyone is having a good time. When you go get something to drink, you see that there are a couple of attractive women talking to and laughing with your date.

Please describe how you envision the situation and how you feel:

2. Soon, you discover that one of the women is flirting with your date. She puts her hand on your date's shoulder and leans forward. They both seem to be enjoying the conversation. As they keep talking, the woman leans in to kiss your date.

Please describe how you envision the situation and how you feel:

3. After much flirting, your date excuses himself and goes off to get a drink. At this point the other woman walks in your direction and runs into you. You now find yourself next to the other woman.

Please describe how you envision the situation and how you feel:

Control.

1. Imagine that you are not doing well in an important class. The class is required for your major and is important for your future. In fact, if you do not do well in the class, it will make it very hard to get a good job when you graduate. Imagine that your professor emails you to schedule an appointment about

your poor academic performance in the class.

Please describe how you envision the situation and how you feel:

2. Now imagine that you meet with your professor. As you walk into the office, you can see the disappointment in the professor's face. The professor begins to pull out some of your exams, which reminds you of the poor grades you've been getting in the class.

Please describe how you envision the situation and how you feel:

3. Your professor seems truly disappointed and tells you that there is no feasible way you could pass the class at this point. Even with a perfect grade on the last assignment, you would still not be able to pass the class. Your professor says that there is nothing can be done.

Please describe how you envision the situation and how you feel:

Text Used in Manipulations (Study 5)

Luxury Product—Man Paid. Imagine you are at a gala party, where you see another woman. This woman is at the party with a man. He is her date and current relationship partner.

You notice her outfit and accessories. She is carrying a luxury designer handbag. You also notice that she has expensive and impressive jewelry. You learn that the handbag and jewelry are gifts from her partner.

Luxury Product—Woman Paid. Imagine you are at a gala party, where you see another woman. This woman is at the party with a man. He is her date and current relationship partner.

You notice her outfit and accessories. She is carrying a luxury designer handbag. You also notice that she has expensive and impressive jewelry. You learn that the woman bought the handbag and jewelry completely with her own money.

Nonluxury Product—Man Paid. Imagine you are at a gala party, where you see another woman. This woman is at the party with a man. He is her date and current relationship partner.

You notice her outfit and accessories. She is carrying an unbranded handbag. You also notice that she has inexpensive and unimpressive jewelry. You learn that the handbag and jewelry are gifts from her partner.

Nonluxury Product—Woman Paid. Imagine you are at a gala party, where you see another woman. This woman is at the party with a man. He is her date and current relationship partner.

You notice her outfit and accessories. She is carrying an unbranded handbag. You also notice that she has inexpensive

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and unimpressive jewelry. You learn that the woman bought the handbag and jewelry with her own money.

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