

Setting the bar: The influence of women's conspicuous display on men's affiliative behavior

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Abstract: Four studies provide evidence for a process by which a woman's conspicuous consumption can serve as a deterrent to affiliative behaviors by materialistic men, via heightened perceptions of the woman's financial standards for a romantic partner. Materialistic men report utilizing status and resources to attract women more than non-materialistic men. Materialistic men may therefore utilize information about a woman's status-linked displays to better calibrate their financially-oriented mating efforts. Differential attention to more subtle displays of a woman's luxury branded items appears to drive materialistic men's disinterest in social interaction with a woman who conspicuously consumes. A woman's conspicuous consumption causes materialistic men to rate a real interaction with that woman less favorably. For women, the opposite is observed, with non-materialistic women reacting more negatively to the interaction.

Research Data Related to this Submission

There are no linked research data sets for this submission. The following reason is given:

Data will be made available on request

Dear Journal of Business Research Editors,

Our manuscript has been formatted to conform with the Journal of Business Research guidelines.

Our Appendix submitted for review contained two photos picturing the research study confederate (study 4) as dressed for each of the study conditions (conspicuous vs. non-conspicuous consumption). We have attempted to contact the research assistant (a former student) for permission to reproduce her photos in the Journal but we've been unable to reach her. To be respectful of her rights over reproduction of her personal image, we have opted to remove these photos from the Appendix. The confederate's dress and personal items in each study condition are described in detail in the study methods in the manuscript.

Sincerely,

Jill, Mario, Inge, and Luk

Highlights:

- Materialistic people pay differential attention to a woman's status brand displays
- Materialistic men report relying differentially on resources and status to attract women
- Materialistic men interpret women's conspicuous consumption as high financial mating standards
- Materialistic men are socially deterred by women's conspicuous consumption
- Materialistic women are not socially deterred by a woman's conspicuous consumption

Setting the Bar:

The Influence of Women's Conspicuous Display on Men's Affiliative Behavior

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Setting the Bar:

The Influence of Women's Conspicuous Display on Men's Affiliative Behavior

Abstract

Four studies provide evidence for a process by which a woman's conspicuous consumption can serve as a deterrent to affiliative behaviors by materialistic men, via heightened perceptions of the woman's financial standards for a romantic partner. Materialistic men report utilizing status and resources to attract women more than non-materialistic men. Materialistic men may therefore utilize information about a woman's status-linked displays to better calibrate their financially-oriented mating efforts. Differential attention to more subtle displays of a woman's luxury branded items appears to drive materialistic men's disinterest in social interaction with a woman who conspicuously consumes. A woman's conspicuous consumption causes materialistic men to rate a real interaction with that woman less favorably. For women, the opposite is observed, with non-materialistic women reacting more negatively to the interaction.

Keywords: materialism, status consumption, conspicuous consumption, mating, signaling

Setting the Bar:

The Influence of Women's Conspicuous Consumption on Men's Affiliative Behavior

1. Introduction

People everywhere are concerned with their level of status, or relative position within their society or reference group (Solnick & Hemenway, 1998). Attaining high status is valued intrinsically (Huberman, Loch & Öngüler, 2004), feels good (Ivanic & Nunes, 2009), and affords access to valuable resources and benefits (Keltner, Gruenfeld & Anderson, 2003). In developed market economies, individuals may attempt to signal their status via their possessions--in particular, through the public acquisition and display of expensive products or experiences (Frank, 1999). Thorstein Veblen termed this behavior *conspicuous consumption* in his timeless treatise on the topic (1899).

Over a century later, the demand for luxury goods shows no signs of abating. The top 100 prestige brand companies generated over 247 billion dollars of revenue in the 2017 fiscal year, an increase of 10% over the prior year's revenue (Arienti, 2019). Not surprisingly, then, research seeking to enhance understanding of the motivations for luxury consumption, as well as the implications of such consumption for individuals' well-being and social relationships, has received increasing attention in the fields of psychology, economics and marketing. The evolutionary theoretical framework has proven to be generative within this research domain, where researchers have applied evolutionary biological theories and models to help explain more nuanced, context-dependent motivations for the consumption and display of status-linked goods (Griskevicius et al., 2007; Janssens et al., 2010; Lens et al., 2012; Miller, 2000, 2009; Mittal & Sundie, 2017; Otterbring et al., 2018; Saad & Vongas, 2009; Sundie et al., 2011; Wang & Griskevicius, 2014). This work has tended to emphasize the role of luxury goods display in mate attraction and mate retention dynamics.

People are not equally motivated to seek status through the purchase and display of status-linked luxury possessions, even to achieve mating goals. In parallel with the evolutionary-informed work on motivations for conspicuous consumption, researchers in other domains have examined the role that personal values--specifically, values that are more or less materialistic in orientation--play in promoting luxury consumption (Burroughs & Rindfleisch, 2002; Richins & Dawson, 1992; Richins, 2011; Shrum et al., 2013). Materialistic values, which are thought to first emerge noticeably in late adolescence (Chaplin & John, 2007), are associated with seeking life satisfaction through the acquisition of possessions, and benchmarking one's own as well as others' successes by the status value of possessions. Materialism research has often investigated consequences of materialistic values for individual well-being (Dittmar, Bond, Hurst, & Kasser, 2014), but has neglected the consequences of materialistic values for interpersonal dynamics, and close social relationships. Seldom has research inspired by the evolutionary perspective leveraged the body of work on materialistic values to examine the motivations for and consequences of consumption (cf. Mittal & Sundie, 2017).

In this paper, we seek to bridge these two literatures to enhance understanding of the role individual differences in materialistic values may play in social affiliation processes between men and women. We focus on interpersonal dynamics between men and women at the age and life stage where mate attraction and selection goals are likely to be prominent (i.e., younger adults; Ko et al., in press). In particular, we examine how a person's materialistic values may serve to drive attention to others' displays of luxury goods, and how these displays influence subsequent social judgments and behavior towards the displayers.

Prior research inspired by the evolutionary framework has tended to focus on motivations for men's consumption of luxury goods, and women's reactions to those displays. However, women are clearly motivated to consume luxury products as well. This

prompts questions about both the drivers and consequences of female luxury consumption. In the research reported here, we focused on examining interpersonal consequences of women's conspicuous consumption. Prior research has shown that female luxury consumption may be motivated by intra-sexual signaling of one's partner's level of commitment (Wang & Griskevicius, 2014), or of one's own attractiveness-based mate value (Hudders et al., 2014). While this work has focused on the role of luxury display in mating-relevant contexts where women are aiming to compete successfully against other women, it is also possible that women's luxury displays may help to set the bar for men, communicating to men the female luxury owner's high financial standards for a mate. However, questions remain about men's responses to women's status-linked consumption. The present paper addresses such responses directly, presenting evidence that depending on their level of materialism, men may react negatively to women's luxury consumption.

Thus, the present work seeks to bridge two largely disconnected research streams, focused on very similar outcomes of interest; the motivations for, and social consequences of, luxury consumption by ordinary people. First, we contribute to research inspired by evolutionary thinking, leveraging this theoretical perspective to examine how women's luxury consumption may deter men's affiliative behavior. Prior research on (mostly male) luxury consumption has focused on positive social outcomes of luxury consumption and display; we investigate a potentially negative one. Second, we contribute to the body of research on materialism. Past research has focused on various antecedents and consequences of materialism and corresponding behavior, showing that materialistic people differentially seek to acquire and value status goods, and may experience decreased well-being as a result (Ditmar et al., 2014; Kasser, 2002). However, little work in this domain has examined how materialistic values influence attention to others' luxury consumption, or the consequences of luxury displays for social relationships. The present research integrates adaptationist thinking

about luxury displays with the literature on materialistic values to examine how high levels of materialism may engender negative reactions by men to women's luxury consumption, in a manner that deters social interaction with those women.

2. Conceptual background

2.1. Sexual signaling and conspicuous luxury consumption

An evolutionary perspective on status consumption and display often considers conspicuous consumption to be a type of costly signaling (Miller, 2000, 2009; Penn, 2003). In other species, the conspicuous display of physical ornaments by males (such as the lion's mane, or the peacock's tail) provides critical information to females about the health of a prospective mate, whose resilient genetics would be passed on to any offspring they produce (Zahavi & Zahavi, 1997). Only the healthiest males can afford to divert critical bodily resources towards growing large ornamental displays such as tail feathers; hence, these ornamental features are costly signals of mate quality. Among most mammalian species this criterion of good health is ultimately crucial for females to attend to, as genetic material is the only resource the male will contribute to the reproductive process (Trivers, 1972). A fact that is critical to understanding *human* sexual signaling systems is that men invest much more, on average, in both their mates and offspring care relative to their mammalian male counterparts (Geary, 2000). Men's indirect (i.e., non-genetic) investment in the reproductive process has multiple facets, including resource contributions, protection, and direct care of offspring.

To understand the reactions of men to women's displays of status and resources--the focus of the present research--it is necessary to first consider the role men's resource-relevant displays play in attracting women. Women seeking long-term partners are focused on securing a reliable stream of investments, and therefore are expected to be attuned to signals of whether men seem willing and able to make such sustained investments (Buss, 1989; Shakelford, Schmitt, & Buss, 2005). A partner's status and financial resources may not only

be important to women seeking long-term commitment from a partner, but also to women who are open to short-term relationships (Hrdy, 1999; Gueguen & Lamy, 2012; Vigil et al., 2006). Women engaging in uncommitted relationships with high status males may gain genes for offspring that will also contribute to their offspring's ability to acquire status, such as intelligence, or physical health and dominance (Geary, 2000). Forming social connections with high status men through uncommitted partnerships may also reward women in the form of vicarious status, protection, and a stream of economic benefits--albeit in the short-run (Greiling & Buss, 2000; Hrdy, 1999; Vigil et al., 2006).

Recent evolutionarily-informed research has shown that men understand this mating-relevant value of sending status-linked signals to women. When focused on desirable romantic opportunities, some men become more motivated to engage in conspicuous consumption (Griskevicius et al., 2007; Janssens et al., 2010; Sundie et al., 2011). Research has also shown that women are more receptive to dates (i.e., uncommitted social encounters) with men who display prestige products as opposed to more ordinary, mundane possessions (Dunn & Searle, 2010; Gueguen & Lamy, 2012; Sundie et al., 2011). In addition, women who are at the point in their cycle where they are most likely to conceive show an enhanced interest in status goods (Lens et al., 2012).

Thus, we would expect men seeking mating opportunities to differentially attend to, and value, material possessions as means to achieve romantic goals. Signaling behavior in all species is exhibited only towards audiences for whom the signal is expected to have an impact, as sending such signals is costly, and so signaling effort must be expended discriminately. For men's resource-relevant signals, this requires identifying desirable prospective mates that will be most likely to notice and respond favorably to those signals (Bailey, Durante, & Geary, 2011). To determine which particular women may be receptive to mating efforts involving resource displays, men may be attentive to indicators of a woman's

financial standards, and some men may notice these signals better than others. We proposed that men with materialistic values may rely more on luxury displays to attract women, and that they may also be more attuned to women's status displays compared to men who are less materialistic. If women's status displays are more noticeable to materialistic men, they could utilize this information to better calibrate any potential mating efforts with those women.

2.1. Materialism and conspicuous consumption

Materialism is a fairly stable (i.e., trait-like) value that is manifested as a preoccupation with the acquisition and display of material possessions, experiences, or relationships, to signal positive information about oneself (Belk, 1985; Kasser, 2016; Richins & Dawson, 1992; Shrum et al., 2013). Being materialistic may mean that a person believes more consumption will make him or her happier, or that a person's level of status is indicated by his or her possessions, or both (Burroughs & Rindfleisch 2002; Fournier & Richins, 1991; Richins & Dawson 1992). Materialists feel that luxury consumption, in particular, is more affectively rewarding than do non-materialists (Wong & Ahuvia, 1998; Hudders & Pandelaere, 2012). Materialists also tend to overestimate the rewards associated with material consumption (Pandelaere, 2016; Richins, 2013). Materialistic people are more likely to believe that their perceived level of status is intimately connected with what they possess, and who knows it. Thus, materialistic values are thought of as a chronic driver of the desire for conspicuous luxury consumption. Yet, as mentioned earlier, little of the prior work on materialistic values has addressed how these values influence cognitive processing of others' status displays, or the implications for interpersonal interactions or relationships.

2.2. Integrating perspectives on perceptions of luxury consumption

The evolutionary perspective leads to predictions that certain people in certain contexts will readily attend to others' luxury consumption signals, such as the display of products and services bearing luxury brand names (Janssens et al., 2010; Lens et al., 2012;

Saad & Vongas, 2009). More basic cognitive research has shown that people differentially attend to stimuli they associate with rewards (through either a learning process, or an inherited predisposition), even when those stimuli are not relevant to a focal cognitive task, and are not salient (Le Pelley et al., 2015; Anderson, 2013; Anderson et al., 2011). These research streams triangulate on the same expectation; some people will exhibit a greater sensitivity and responsiveness to luxury displays relative to others. The materialism literature suggests that people who endorse materialistic values will be one such group.

Materialists, as described above, expect more reward value from the consumption of luxury products and services, and more closely link possessions with the achievement of social goals such as attaining high social status. Hunt et al. (1996) proposed that materialists should be more likely to attend to external features of a person such as his or her possessions when forming a first impression of that person. This was presumed to follow from materialistic values driving selective attentional and encoding processes, as well as retrieval processes when prompted to generate subsequent evaluations of people one has met in the past. Dittmar and Pepper (1994) also proposed that interpersonal judgments via products may help materialists orient themselves in their social worlds and anticipate the nature of future social interactions with others by locating them in the “social-material hierarchy” (p. 236). Therefore, rewards that materialists anticipate will come from conspicuous consumption may indeed drive their attentional resources toward those displays in the social realm.

The evolutionary perspective has inspired research showing that fundamental social goals linked to reproductive outcomes, such as mate attraction and mate retention goals, are important in shaping early-stage cognitive processes such as attention to socially relevant stimuli (Maner, Gailliot, Rouby, & Miller, 2007; Maner, Gailliot, & DeWall, 2007; Maner, DeWall, & Gailliot, 2008). As with the hypothesized role of materialism, other individual differences exert trait-like influences on cognition and behavior, for both men and women.

For instance, openness to uncommitted sexual encounters, or interest in alternatives to one's current partner, have been shown to predict attentional fixation on members of the opposite sex who possess functionally relevant characteristics (i.e., physical attractiveness; Maner, DeWall, & Gailliot, 2008). This literature provides evidence that goal-driven (i.e., contextually sensitive) selective attentional processes serve to help people to obtain and maintain important social opportunities and relationships, by focusing on likely threats and opportunities in their social world.

Thus, the evolutionary biological literature and the materialism literature--considered together--suggest that active reproductively relevant goals (e.g., mate attraction) and individual differences in how people seek to achieve these goals (e.g., via materialistic consumption), may be important drivers of selective processing of luxury displays.

Integrating these perspectives, we investigated how materialistic values might play a role in how people attend to others' luxury consumption. In light of mating motives, and what is known about evolved mating psychology, such displays may have important implications for social interactions between men and women. In particular, we sought to investigate how men evaluate and respond socially to women who engage in conspicuous consumption.

The mating sociometer (Kavanagh, Robins, & Ellis, 2010; Kirkpatrick & Ellis, 2001; Penke et al., 2008) describes an internal calibration mechanism that serves reproductive objectives by ensuring that people target mates of appropriate value in the mating market, thereby increasing their chances of reproductive success. Self-perceived mate value is a central aspect governing these calibration efforts, and helps to ensure that people do not expend wasted effort courting either relatively low value prospective mates (when they could do better) or relatively high value prospective mates (those out of their league). Materialistic people are particularly prone to benchmark their own level of status based on the value of their possessions (Richins & Dawson, 1992; Richins, 2004). As such, if a prospective female

partner's conspicuous consumption is differentially noticed by materialistic men, and they interpret this as an indication that she has very high financial standards, they may decide their mating efforts are better placed elsewhere.

2.3. The conceptual model

Given materialists' preoccupation with the consumption of goods as a route to attaining status (Richins, 1994; Richins & Dawson, 1992), we have proposed that materialistic men may rely differentially on economic resources to attract women. Materialistic men (and women) may be more likely to notice a woman's status goods, if it is the case that their material values serve to drive attentional resources towards these status displays. A woman's luxury displays may prompt conclusions about her financial standards for a romantic partner. Materialistic men, to the extent they rely on status and resources to attract women, may utilize this information to more appropriately calibrate any mating efforts, adjusting their social affiliation behaviors accordingly. A woman's conspicuous consumption, to the extent that it is noticed and thereby conveys high financial standards for a mate, may therefore deter these men in social contexts. We propose that materialistic men may display less affiliative behavior when interacting with a woman who engages in conspicuous consumption. Rather than interpreting her status displays positively--as the foundation for a social connection based on shared values for instance--materialistic men may be paradoxically less drawn towards a conspicuously consuming woman because they see her as having set her financial bar very high. Figure 1 summarizes this hypothesized process.

2.4. Overview of the studies

In the pilot study, we tested an assumption of our reasoning; that materialistic men do indeed rely differentially on status and resources to attract women. To our knowledge, this effect has never been shown. In the first study, we tested whether materialistic people are in fact more attuned to a woman's luxury displays, drawing inferences about a woman's

financial standards for a mate as a result. In the second study, we also examined whether materialistic men (as compared to non-materialistic men) were more likely to make inferences about a woman's high financial standards (but not other mating standards) when she engaged in conspicuous consumption. In the third study, we tested whether a woman's high financial standards for a dating partner--when they are made salient to male observers--can serve as a social deterrent. In the fourth study, we tested whether a woman's conspicuous consumption causes materialistic men to rate a real interaction with that woman less favorably. Study 4 also examined the responses of women to the female conspicuous consumer, to investigate whether the hypothesized negative reactions were limited to materialistic men (i.e., not also exhibited by materialistic women), in a manner consistent with mating motives.

3. Pilot study

In the pilot study, men rated how much they personally rely on a variety of individual characteristics to attract a romantic partner. We hypothesized that materialistic men would be more likely to rely on financially-linked characteristics to attract women. Specifically, we expected materialistic men to rely more on financial resources and status for mate attraction, compared to other characteristics women value such as intelligence or faithfulness, when attempting to attract a prospective female partner.

3.1. Participants and procedure

197 heterosexual undergraduate men ages 19-45 ($M_{\text{age}} = 21.25$, $SD_{\text{age}} = 2.39$) from a university in the Southeastern U.S. participated in return for partial course credit. 71 (36%) reported being in a committed relationship with a woman, with the remaining men being either single or casually dating. 7 participants were excluded for repeatedly (4 or more times) spending too little time completing study measures, however, the pattern of the results and significance levels are the same if these careless responders are included. Participants

completed demographics, and were then asked “To what extent do you rely on each of these characteristics to attract women?” with ratings on a 7-point scale (1 = not at all to 7 = very much). The eight characteristics that have been shown in previous research to be desirable to women when evaluating a prospective mate (Buss, 1988; Kenrick et al., 1990; Shackelford et al., 2005) were: financial resources, humor, intelligence, physical attractiveness, masculine body, caretaking abilities, faithfulness, and status. After completing several trait measures unrelated to the current research, participants completed the 9-item version of the Material Values Scale¹, $\alpha = .83$, using a 7-point response format (Richins, 2004). We used the 9-item short version in the online studies to alleviate tedium (pilot study, and studies 1 and 3) and the full 18-item materialism measure (Richins & Dawson, 1992) in the lab studies (Studies 2 and 4), where this was less of a concern.

3.2. Results and discussion

Because our hypothesis involved multiple correlated dependent variables (i.e., the set of mate-attraction characteristics each participant rated), simple zero-order correlations between the materialism measure and each characteristic would not provide an accurate test of the relative importance of some characteristics (status, resources) over and above the others (e.g., humor, intelligence). We therefore modeled the correlations between the dependent variables (i.e., the mate-attraction characteristics) using a path-analytic approach. Specifically, we regressed each of the mate-attraction characteristics on the unit-weighted composite of the materialism measure, allowing the residuals of each characteristic to correlate with each of the other characteristics (see Figure 1A in Appendix for the path coefficients of the unconstrained model where paths from materialism to each characteristic are freely estimated). There are significant paths from materialism to financial resources and status, but not from materialism to the other six desirable characteristics.

¹ Henceforth, the Material Values Scale will be referred to as the “materialism” measure for simplicity.

We then used nested model comparisons to examine whether the hypothesized pattern (i.e., that materialism has stronger relations to financial resources and status than it does to the other mate-attraction characteristics; Model 1) fits the data better than a pattern that opposes this hypothesis (i.e., that materialism is equally related to all characteristics; Model 0). Although both models fit reasonably well (Model 1: $\chi^2 = 2.13$, $df = 6$, $p = .91$, $CFI = 1.00$, $SRMR = .02$; Model 0: $\chi^2 = 19.77$, $df = 7$, $p = .01$, $CFI = .95$, $SRMR = .05$), a comparison of the two models provided support for the hypothesis that materialistic men rely more on resources and status to attract women than they rely on other desirable characteristics, $\Delta\chi^2 = 17.64$, $df = 1$, $p < .001$ (see Table 1A for path coefficients from the two models). Materialistic men appear to believe that the way to a woman's heart is through their wallet.

As described above, materialism researchers expect people who are materialistic to focus on or attend more readily to others' luxury possessions. However, we are unaware of any documented empirical evidence for this pattern. In study 1, we sought to test whether materialists are indeed more likely than non-materialists to notice others' luxury possessions. We had no a priori reason to expect differences between men and women in how materialistic values might drive early stage cognitive processes (e.g., attention) to others' status products; the materialism literature does not document or suggest such sex differences. However, as our conceptual model indicates, we did expect that subsequent behavior (i.e., how people behave in response to perceptions of financial standards based on a woman's luxury displays) would exhibit a sex-specific pattern if mating motives were operating. Thus, when first examining the earlier stage processes, we initially studied both men and women. In addition, we examined the role materialistic values may play in the conclusions people draw about a woman's financial standards for a romantic partner, based on her luxury possessions.

4. Study 1

We, and other researchers (Dittmar & Pepper, 1994; Hunt et al., 1996), have proposed that materialists should be more likely to notice others' status signals, and incorporate this information into interpersonal judgments about those others. If this is the case, materialists should be more likely to conclude that a woman's possessions are expensive when they carry subtle luxury branding, compared to when she possesses non-conspicuous (unbranded) items. Such an effect would imply that materialists are more attuned to status-relevant information in their environment--an enhanced attention effect. Such enhanced attention by materialists to luxury brand displays could carry through to influence perceptions of the woman's financial standards for a mate--this study also tested this possibility. Furthermore, it is also possible that materialists interpret the cost of luxury products differently than other people. Specifically, for a given level of perceived costs of a woman's luxury items, it is possible that materialists will conclude she has even higher financial standards for her romantic partners than non-materialists – an enhanced interpretation effect. Study 1 was designed to investigate both the potential attention and the potential interpretation effect.

4.1. Participants and procedure

149 participants up to age 35 were recruited from Amazon's MTurk (97 men and 52 women, ages 19-35, $M_{\text{age}} = 28.34$, $SD_{\text{age}} = 3.73$) to participate in an experiment purportedly about snap judgments of others. We limited the upper bound on age to 35, because we wanted participants to be in the same age range as the target (i.e., the female target is a relatively young adult—see Appendix for stimuli). 130 participants reported being heterosexual (87%), and 46% reported being single or dating (i.e., not in a committed partnership). Our manipulation of luxury or conspicuous consumption ($n = 80$) involved presenting participants with one of two randomized scenarios and photos of a female target and asking the participant to imagine meeting the woman pictured at a party. Among other information

about the party, the scenarios described the target woman driving up to the party entrance in her car wearing the outfit in the photo. The manipulation of conspicuous consumption consisted of varying the brand of car driven (Audi convertible vs. Honda Civic) and the luxury status of her outfit as indicated by the provided photo (with vs. without a luxury logo).

Participants then completed a series of measures assessing perceptions of the woman. We assessed the extent to which participants noticed the luxury brand of her outfit with a single item (“How expensive do you think the woman’s outfit was?” on a 7-point scale, with 1 = not at all expensive to 7 = very expensive). We assessed perceptions of her financial standards for romantic partners by asking participants to make “snap judgments” about what kind of job the target female’s romantic partner would be more likely to have. For each of four items, participants were asked which of three jobs her dating partner would be most likely to have. The three jobs listed for each item were all taken from a single industry, and included one high-income option and two lower-income options (e.g., health care: surgeon, physician’s assistant, or paramedic). Thus, the four items reflected jobs from four different industries (health care, law, music, and business), where one of the three occupations was higher in income than the others. Response options on these items associated with the high-income occupation were coded as 1’s, lower-income occupation responses were coded as 0’s. Our measure of financial standards for a mate, $\alpha = .84$, was the sum of responses across the 4 occupation categories. Participants then completed filler items, and then demographics and the materialism measure, $\alpha = .92$, using a 7-point response format.

4.2. Results and discussion

To test for possible moderation by materialism for the attentional and the interpretation effects as outlined in the study overview (at the beginning of section 4), we specified and examined a mediated path model in which the first path (from conspicuous consumption to perceptions of the expense of her outfit) and the second path (from

perceptions of the expense of her outfit to perceptions of financial standards for her romantic partner) were both moderated by materialism (see Edwards & Lambert, 2007, Figure 1, Panel D, for the specification of this type of path model). Before estimating this model², we first checked whether participant sex might have influenced variables in the model. Sex had neither a main effect nor interacted with conspicuous consumption condition or materialism in predicting outfit expense. Similarly, participant sex had neither a main effect nor interacted with outfit expense or materialism in predicting financial standards. As a result, we did not include this variable in the models described below.

An examination of the path coefficients from this model suggested that the conspicuous consumption condition influenced perceptions of her outfit's expense ($b = 1.28$, $\beta = .91$, $SE = .20$, $t(147) = 6.41$, $p < .001$) and that perceptions of her outfit's expense predicted perceptions of her financial standards for romantic partners ($b = .44$, $\beta = .39$, $SE = .09$, $t(147) = 5.15$, $p < .001$). Furthermore, a bias-corrected bootstrap test of the indirect effect (all such tests reported in this manuscript used 10,000 resamples) provided evidence of significant mediation (indirect effect estimate = .56, 95% $CI = [.279, .918]$). The significant direct effect of conspicuous consumption on financial standards for romantic partners ($b = 1.03$, $\beta = .65$, $SE = .24$, $t(147) = 4.39$, $p < .001$) suggested that perceptions of outfit expense was a partial mediator of the total effect.

The critical aspect of our hypotheses involved the role played by materialism in moderating the relation between conspicuous consumption and perceptions of financial standards for a mate. With respect to the effect of conspicuous consumption on perceptions of her outfit's expense, materialism significantly moderated the effect ($b = .32$, $SE = .14$, $t(147)$

² Because we measured materialism after the manipulation, we also checked to see if exposure to female conspicuous consumption increased materialism. Materialism levels in the conspicuous consumption condition ($M = 4.11$, $SD = 1.41$) were not significantly higher than in the non-conspicuous consumption condition ($M = 3.82$, $SD = 1.49$, $t(147) = 1.20$, $p = .23$).

= 2.34, $p = .021$, $\Delta R^2 = .05$). Simple slopes tests revealed that the effect of materialism was positive and significant in the conspicuous consumption condition ($b = .26$, $\beta = .27$, $SE = .10$, $t(147) = 2.72$, $p = .007$) but non-significant for individuals in the non-conspicuous consumption condition ($b = -.06$, $\beta = -.06$, $SE = .10$, $t(147) = -.61$, $p = .54$). A Johnson-Neyman regions of significance test (Preacher, Curran, & Bauer, 2006) indicated that individuals who scored above 2.05 on the original materialism scale (88.6% of participants) perceived the luxury outfit as more expensive than the non-branded outfit (Figure 2).

These results suggest that materialists indeed have a heightened awareness of luxury products they encounter in their environment. When the woman's outfit carried a subtle luxury brand logo, materialists were particularly likely to rate her clothing as being more expensive, providing evidence for an attentional bias towards luxury brand information by materialists. The next question examined in this model dealt with whether materialists might also show an enhanced interpretation effect, meaning that for the same level of perceived outfit cost, materialists (compared to non-materialists) might conclude the woman has higher financial standards. The results suggested that this was not the case. Specifically, materialism exhibited no interaction with outfit expense in predicting financial standards ($b = -.05$, $SE = .04$, $t(147) = -1.09$, $p = .28$, $\Delta R^2 = .01$), nor did it have a main effect on financial standards ($b = .01$, $\beta = .01$, $SE = .07$, $t(147) = .11$, $p = .92$). As a result, the final, most parsimonious model is one with moderation by materialistic values occurring only at the attentional stage, and not also at the interpretation stage.

Relying on this final model, we examined whether the influence of the luxury brand on perceived financial standards for a mate--through perceptions of the outfit's expense--was significantly greater for individuals high relative to low in materialism. This test will indicate whether the attentional bias by materialists to luxury goods carried through to influence perceptions of the woman's financial standards for a mate. We examined this question with a

conditional indirect effects test (again relying on a bias-corrected bootstrapped estimate). This test demonstrated a noticeably stronger indirect effect for high materialists (indirect effect estimate = .74, 95% CI = [.382, 1.194]) than for low materialists (indirect effect estimate = .35, 95% CI = [.070, .690]). A bias-corrected bootstrapped confidence interval for the index of moderated mediation (a test of whether the magnitude of the indirect effect changes as a function of a moderator; Hayes, 2015; 2018) did not include zero, indicating that the indirect effect became stronger as materialism increased (index of moderated mediation = .14, 95% CI = [.005, .298]). This result indicates that the enhanced attention paid to luxury goods carried through to heightened perceptions of the woman's financial standards for her dating partner more so for people higher in materialism.

5. Study 2

Study 2 provided a second test of the hypothesized relationship between female conspicuous consumption and perceptions of heightened financial standards for a partner (Figure 1). We did so using different dependent measures than in study 1 to capture perceptions of a woman's financial standards for a mate. We also assessed other, non-financial, measures of standards for a mate. This allowed us to examine whether women who conspicuously consume are perceived to have generally higher standards for a variety of different mate characteristics, or whether this effect is focused on the financial realm. Specifically, we tested again whether a woman's conspicuous consumption leads materialistic men to infer elevated financial standards on her part. Considering the importance materialistic men attach to status and resources, not only in general, but also for mate attraction, they may be more likely to draw corresponding financial standard inferences (though not necessarily inferences about higher standards for other desirable characteristics in a mate) in response to a woman's conspicuous consumption. As the focus of this study was

on men's perceptions of a woman's standards for a mate (as women's perceptions of a woman's standards are less relevant in a heterosexual mating context), we studied only men.

5.1. Participants and procedure

117 male undergraduate students from a Western European university ages 17-24 ($M_{\text{age}} = 19.08$, $SD_{\text{age}} = 1.29$) participated in an online experiment in return for partial course credit. Participants were randomly assigned to one of two consumption conditions: either conspicuous consumption ($n = 59$), or non-conspicuous consumption. In both conditions participants were asked to imagine they attended a party at which they met a young woman. The woman was described as arriving at the party in either a convertible (conspicuous consumption condition), or in a regular economy car (non-conspicuous consumption condition). In addition, participants were shown a picture of the woman (see Appendix for stimuli). In the conspicuous consumption condition, an expensive brand logo (Hugo Boss) was visible on her shirt, while the logo was removed in the non-conspicuous consumption condition. Participants were instructed to form an impression of the woman based on the available information. Participants then rated on a ten-point scale (1 = very little to 10 = very much) the minimum level of each of four characteristics (intelligence, financial resources, humor, physical attractiveness) a man would need to possess before this woman would consider him as a potential dating partner. Finally, participants completed the materialism scale, $\alpha = .85$, using a 7-point response format.

5.2. Results

We estimated a moderated regression model³ in which we predicted perceived financial standards with consumption condition (coded 0 for control condition and 1 for

³ Because we measured materialism after the manipulation, we also checked if exposure to female conspicuous consumption increased materialism. Unlike study 1, that appeared to be the case in study 2: materialism was higher in the conspicuous consumption condition ($M = 4.24$, $SD = 0.67$) than in the control condition ($M = 3.94$, $SD = 0.79$), $t(115) = 2.21$, $p = .029$, $\eta_p^2 = .04$. While this causes a moderate correlation between both predictors

conspicuous consumption condition), materialism, and their interaction. For ease of interpretation, we mean-centered materialism (original mean = 4.09, $SD = .74$). We found a significant main effect of consumption condition, $b = -1.41$, $\beta = -.36$, $SE = .32$, $t(113) = -4.45$, $p < .001$, indicating that participants who scored average on materialism inferred higher financial standards in the conspicuous consumption condition ($M = 6.42$) than in the control condition ($M = 5.01$). We also found a significant main effect of materialism, $b = .77$, $\beta = .29$, $SE = .22$, $t(113) = 3.56$, $p < .001$, indicating that, overall, participants scoring higher on materialism inferred higher financial standards. These main effects were qualified by a significant interaction between materialism and consumption condition, $b = -1.09$, $SE = .43$, $t(113) = -2.51$, $p = .013$, $\Delta R^2 = .053$. To interpret this interaction, we calculated simple slopes as well as the Johnson-Neyman region of significance (Figure 3).

The regression slope was significant in the conspicuous consumption condition, $b = 1.31$, $\beta = .50$, $SE = .33$, $t(113) = 4.00$, $p < .001$, but not in the non-conspicuous consumption condition, $b = .22$, $\beta = .08$, $SE = .28$, $t(113) = .79$, $p = .43$. A Johnson-Neyman regions of significance test (Preacher, Curran, & Bauer, 2006), using the original materialism scores, indicated that men who scored above 3.53 on the materialism measure (74% of the participants) thought that the woman had higher financial standards when she engaged in conspicuous consumption, compared to when she did not conspicuously consume. The interaction between materialism and consumption condition was significant for none of the remaining three characteristics, all $ts < 1.10$, all $ps > .22$. For the woman's perceived required standard on physical attractiveness, a significant main effect of materialism was found, $b = .38$, $\beta = .26$, $SE = .14$, $t(113) = 2.79$, $p = .006$, such that higher levels of materialism were associated with higher levels of expected standards for a male mate's physical attractiveness.

in the model, $r = .20$, it does not cause any statistical problems (e.g., multicollinearity) or alter any of our conclusions from the analyses reported above.

5.3. Discussion

Conceptually replicating study 1, this experiment also showed that female conspicuous consumption is perceived differently depending on the level of materialism of the observer. We found that materialistic men are more likely than non-materialistic men to interpret a woman's luxury goods as evidence that she requires more financial resources from a prospective mate. Materialistic men were not, however, more likely to conclude that the conspicuously consuming woman was more selective on other, non-financial, desirable characteristics in a romantic partner.

Study 2 provided evidence of the causal link between a woman's conspicuous consumption and perceptions of that woman's high financial standards in a mate among men, moderated by men's materialism. Study 2, like study 1, produced results consistent with first stage moderation by materialism as depicted in our conceptual model (Figure 1). In the next two studies, we examined whether, and for whom, a woman's luxury product displays and high financial standards for a mate will influence evaluations of a social interaction with her (the final dependent variable in the model).

6. Study 3

Although only relatively materialistic men (and women) may notice a woman's luxury displays and infer high financial standards from her conspicuous consumption (as documented in studies 1 and 2), the second path in our conceptual model indicates our expectations that *all* men will react negatively to a woman's high financial standards when those elevated standards are made salient. This is consistent with calibration by the mating sociometer (Kavanagh, Robins, & Ellis, 2010; Kirkpatrick & Ellis, 2001; Penke et al., 2008) that directs people to avoid wasting mating effort on relatively high mate value prospects with whom the chances of mating success are low. While we did not hypothesize second stage moderation (i.e., moderation by materialism of the link between financial standards and

men's evaluations of the woman), study 3 did permit us to examine whether such second-stage moderation also occurs. Study 3 was designed to test whether a woman's high financial standards for a mate would influence men's expectations (negatively) about a social interaction with her. Consistent with the causal steps approach to testing mediation, this study involves manipulating the mediator, and measuring its influence on the dependent variable of male evaluations (Spencer, Zanna, & Fong, 2005).

6.1. Pretest

To develop a reliable manipulation of a woman's financial standards for a mate, a pretest was conducted to establish the effectiveness and construct validity of the manipulation to be utilized in the focal study. Recruited from Amazon's MTurk, 83 men ages 21-35 ($M_{\text{age}} = 28.42$, $SD_{\text{age}} = 3.67$) participated in a brief online survey for a minimal payment. 44 reported being single, and 39 reported currently dating a woman or being in a committed relationship with a woman (zero men responded to the relationship item prompting them to report being non-heterosexual).

Men were presented with one of two possible online dating profiles featuring a photo of the same attractive woman ($M_{\text{physical attractiveness}} = 7.49$, $SD_{\text{physical attractiveness}} = 1.23$ on a 1 to 9 scale, with 9 = highly attractive, as rated by the participants at the end of the pre-test). Participants were told that the researchers were interested in testing their memory for certain parts of an online dating profile, as well as obtaining their overall impressions of the person posting the profile. The profile described the woman's age, hometown, employment and education level (all held constant), hobbies, favorite cities/places, and a paragraph about what she was seeking in a partner. The content of the latter three categories varied by financial standards condition. The high financial standards profile ($n = 42$) described the woman as seeking a partner who would want "to share the finest things in life with me", and who "loves to shower me with gifts and little luxuries", and is "someone I can travel in style with to see

the very best the world has to offer”. The low financial standards profile described seeking a partner “who isn’t absorbed in work and his career, and who just wants to share the simple things in life with me”, and is “someone I can travel on a budget with to see the world”.

Four items, $\alpha = .98$, assessed men’s perceptions of the target woman’s financial standards (What kind of financial standards does the woman in the profile have for a romantic partner? How much money would a man need to spend on buying gifts for the woman in the profile to keep her satisfied in a dating relationship? How wealthy would a man need to be to attract the woman in the profile for a romantic relationship? How much money would a man have to spend when dating the woman in the profile?). Participants also completed the demographic items noted above, and reported their monthly discretionary income to serve as a control variable. Based on a 1 to 9 response format, ratings of the woman’s perceived financial standards for a mate were significantly elevated in the high standards condition, $t(82) = 10.18, p < .001, \eta_p^2 = .56, M_{\text{higher standards}} = 7.84, SD_{\text{higher standards}} = 1.13, M_{\text{lower standards}} = 4.44, SD_{\text{lower standards}} = 1.83$. When participant discretionary income was included in a second regression as another predictor along with the condition variable, income did not influence perceptions of the woman’s financial standards, $t(82) < 1$.

6.2. Main study

6.2.1 Participants and procedure

217 men from a Qualtrics online panel, ages 18-30 ($M_{\text{age}} = 24.13, SD_{\text{age}} = 3.50$), participated in the study for a small payment. Men were eligible to participate in the remainder of the study only if they first reported on a screener question that their relationship status was single, and that they were interested in dating women. By random assignment, participants first viewed either the low financial standards profile, or the high financial standards profile and then answered various questions about the impressions they formed of the woman featured. We excluded men who reported a non-heterosexual orientation ($n = 21$)

in a follow-up item towards the end of the survey, despite having answered “yes” on the initial study qualification question that they were “single, and interested in dating women”. We also excluded 7 participants who gave nonsensical responses to the open-ended questions about first impressions and profile (e.g., gave letter strings, or made disparaging comments about the study). This resulted in a final sample of $n = 189$, ($n_{\text{high financial standards}} = 91$).

We created eight items that assessed participants’ thoughts about, and interest in, a social interaction with the target woman, named Carrie (e.g., “How interested would you be in getting to know Carrie better?”, “How friendly do you think Carrie would be towards you, if you had the opportunity to talk to her?”; $\alpha = .85$, see Appendix for all items). After asking these questions we asked open-ended questions about the initial impressions participants had formed regarding Carrie and their recall of her profile, for use as attention screeners. Ten items drawn from Mattick and Clarke (1998) to assess social interaction anxiety, $\alpha = .93$, were collected for use as a control variable. The materialism measure, $\alpha = .86$, using a 7-point response format, and demographic items (e.g., age) were also collected.

6.2.2. Results

We conducted a principal components analysis of the eight items regarding the participant’s interest in a social interaction; both an eigenvalue-larger-than-one and a scree plot suggested these items formed a unidimensional construct (with the first factor explaining 68% of the variance). Therefore, we averaged the scores on these eight items, to create our dependent variable of ratings of a potential social interaction with the female target. As social anxiety did not significantly predict ratings of the social interaction in any of our analyses, we did not include it in the results we report.

We analyzed interest in social interaction with the target woman using a moderated regression model⁴ that included her financial expectations (dummy-coded: low = 0 vs. high = 1), materialism, and their interaction. Prior to the analysis, we mean-centered materialism (original scale statistics: $M = 4.02$, $SD = 1.26$). We found a main effect of financial expectations ($b = -.42$, $\beta = -.15$, $SE = .19$, $t(185) = -2.20$, $p = .028$), such that social interaction interest was lower if her financial expectations were high ($M_{\text{high financial standards}} = 4.75$) rather than low ($M_{\text{low financial standards}} = 5.17$). The interaction between materialism and standards was not significant, $b = .22$, $SE = .15$, $t(185) = 1.48$, $p = .14$, $\Delta R^2 = .012$, indicating that there is no evidence for second-stage moderation by materialism, in addition to the first stage moderation already suggested in our conceptual model (Figure 1) and documented in the first two studies. The main effect of materialism was significant, $b = .33$, $\beta = .30$, $SE = .07$, $t(185) = 4.39$, $p < .001$; when controlling for the effect of the female target's financial standards, approach interest increased as materialism increased.

6.2.3. Discussion

The third experiment provided evidence that when a woman's high financial standards for a partner are made salient, men are less inclined towards interacting socially with that woman. This study provides evidence that our proposed mediator--perceptions of a woman's financial standards for a male partner--causally influences our dependent variable of male evaluations of a social interaction with that woman. The influence of a woman's financial standards on men's affiliative tendencies was not moderated by men's materialism, indicating no evidence for second-stage moderation by materialism, over and above the first stage moderation by materialism documented in studies 1 and 2. When controlling for differences in the woman's financial standards across study conditions, materialistic men were generally

⁴ Materialism was not influenced by standards condition, $t(187) = 0.47$, $p = .64$, $\eta_p^2 = .001$.

more interested in approaching the highly attractive target female. This is perhaps because people who hold materialistic values place more emphasis on the pursuit of extrinsic social rewards, such as an attractive physical appearance (Kasser, 2002). Having established the moderated mediator role of perceived financial standards for a mate in studies 1-3 using a causal steps approach to testing mediation (Spencer et al., 2005), the final study moved beyond hypothetical scenarios to examine whether our key findings would be consistent with men's evaluations of a real social interaction with a woman who possesses luxury goods.

7. Study 4

Study 4 examined the reactions of men and women to interacting with a woman who engages in conspicuous consumption. Referring to the conceptual model (Figure 1), this study was designed to test the total effect of a women's conspicuous consumption on evaluations of and behavior toward that female target, and to investigate whether materialism moderates this effect. Study 4 also allowed for an examination of the possible deterrent effect of a woman's conspicuous consumption on female participants. If the predicted effects occur for men, but not for women, this would suggest that women's conspicuous consumption is interpreted at least to some extent through a mating-relevant lens. The approach taken in study 4 was consistent with other research that has explicitly utilized a professional evaluation context, and measures of those professional interactions, to reveal mating-relevant social biases (Agthe, Strobel, Sporrle, Pfundmair, & Maner, 2016). This approach follows other work that tested for patterns of person perception consistent with evolutionary theories on mating dynamics without evoking any particular social context, mating or otherwise (Maner, Gailliot, & DeWall, 2007; Maner, DeWall, & Gailliot, 2008).

7.1. Participants and procedure

135 students from a Western European university (76 males, 59 females, ages 17-24, $M_{\text{age}} = 19.23$, $SD_{\text{age}} = 1.33$), participated in the experiment for partial course credit. There

were two experimental conditions, conspicuous consumption ($n = 67$) and non-conspicuous consumption. Every fifteen minutes one participant entered the lab. Upon arrival at the lab, a brief description of the experiment was provided to the participant. Participants were told they were about to take part in a taste test for a new fruit juice that had just been introduced to the market, conducted by an independent market researcher (who was in reality a confederate). After the taste test, the participant was ushered into a different room to complete the remaining experimental tasks.

The female confederate was 22 years old (i.e., within a few years of the age of most participants). She wore the same hairstyle (loose hanging long hair), and the same skirt and top in both conditions. The confederate received one hour of training in the lab on the day before the experiment, such that she was familiar with the question format and the exact set-up of the interaction. She was instructed to be equally friendly to each participant--irrespective of each participant's reactions--and to behave in a standard way during each interaction. For instance, she held a large folder containing the questionnaire in her hands to avoid uncontrolled hand movements during the interaction.

The female interaction partner, who had been introduced as a market researcher, was seated on a chair in front of a small table upon which a cup with juice and the items related to the experimental manipulation were placed. The participant was directed to take a seat on the couch on the other side of the table from the confederate. In the conspicuous consumption condition a shiny Guess handbag, a Sony Xperia phone, and a Porsche ignition key were strategically placed on and next to the table between the participant and the female confederate, such that the products seemed to belong to her. In the non-conspicuous consumption condition, these products were replaced by an unbranded handbag of the same color, a basic Sony mobile phone, and the ignition key of an economy car. In the conspicuous consumption condition the confederate wore a suit jacket and a Swarovski necklace; in the

non-conspicuous consumption condition, the suit jacket was replaced by a more casual jacket and the necklace was removed.

Once each participant was seated, he or she was asked to taste the fruit juice from the cup that was placed on the table. Then the confederate asked a number of standardized questions about the quality of the juice (e.g., “I liked this juice”, “I would recommend this juice to other people”, “I would buy this juice if available in my store”). At the end of the interaction, the female interaction partner asked each participant to evaluate the juice on a 10-point scale (1 = very bad to 10 = very good). The interaction lasted approximately 3 minutes.

After the interaction, the participant was led into the adjacent room to complete a set of measures and other tasks. First, participants were asked to evaluate his or her interaction with the market researcher. On a 7-point scale (1 = totally disagree to 7 = totally agree), participants answered the items “I had the impression that the market researcher liked to interact with me” and “I enjoyed the interaction”, $\alpha = .80$. After a number of tasks unrelated to the present study (approximately 30 minutes after the interaction) participants completed the materialism measure, $\alpha = .82$, using a 7-point response format.

After each interaction (before the next participant entered the lab) the female confederate also evaluated the interaction with the participant on a number of dimensions of non-verbal behavior (i.e., warm, affiliative behaviors; Andersen, Andersen, & Jensen, 1979). In particular, on a 7-point scale (1 = totally disagree to 7 = totally agree), she judged the extent to which the participant made eye-contact, had a relaxed posture, directed his/her body towards her, smiled at her, and seemed distant. These items were averaged to form an index of the female confederate’s evaluation of each participant’s affiliative behavior, $\alpha = .93$. The female confederate was not blind to the conspicuous consumption condition, but was unaware of the specific research hypotheses and questions the study was designed to address, and was also blind to the participant’s level of materialism.

7.2. Results

7.2.1 Participants' evaluations of the interaction with the female confederate

The items assessing the participant's rating of the interaction with the female confederate (e.g., "I had the impression that the market researcher liked to interact with me") were averaged to form an index, as were the materialism items. A moderated regression analysis⁵ was conducted with materialism, participant sex (0 = men, 1 = women), and consumption condition (0 = non-conspicuous, 1 = conspicuous) and all their 2-way and 3-way interactions as predictors, and participants' evaluations of the interaction as the outcome variable. For ease of interpretation of any lower-order effects, we mean-centered materialism (original scale $M = 4.17$, $SD = 0.69$).

We obtained a main effect of consumption condition, $b = -.65$, $\beta = -.31$, $SE = .18$, $t(127) = -3.53$, $p < .001$, indicating a more negative rating of the interaction when the female confederate engaged in conspicuous consumption ($M = 4.52$) than when she did not ($M = 5.17$). None of the other main effects or 2-way interactions were significant, all $ts < 1.36$, all $ps > .17$, but, consistent with our expectations, there was a significant three-way interaction of materialism, participant sex, and conspicuous consumption condition on participants' evaluation of the interaction with the female confederate, $b = 1.43$, $SE = .60$, $t(127) = 2.38$, $p = .019$, $\Delta R^2 = .043$. We first followed up this 3-way interaction by testing the 2-way interaction between materialism and consumption condition for men and women separately. This interaction was significant for men, $b = .80$, $SE = .33$, $t(127) = 2.45$, $p = .016$, $\Delta R^2 =$

⁵ We again checked whether our manipulation affected materialism. We subjected the original materialism scores to a 2 (participant sex: male vs. female) * 2 (condition: non-conspicuous vs. conspicuous consumption) ANOVA. We found no effect of participant sex, $F(1, 131) = 1.46$, $p = .23$, $\eta_p^2 = .011$, or of condition, $F(1, 131) = 0.52$, $p = .47$, $\eta_p^2 = .004$. We did obtain a marginally significant interaction, $F(1, 131) = 3.48$, $p = .064$, $\eta_p^2 = .026$. Post-hoc comparisons revealed no effect of condition for women, $p = .45$. For men, materialism tended to be lower in the conspicuous consumption condition ($M = 4.07$, $SD = .80$) than in the control condition ($M = 4.38$, $SD = .68$), $p = .052$. Note that this is opposite to the pattern observed in Study 2. Also, as in Study 2, this does not invalidate any of the effects reported.

.045, but not for women, $b = -.63$, $SE = .50$, $t(127) = -1.25$, $p = .21$, $\Delta R^2 = .012$. To further aid in interpretation of the 3-way interaction, slope tests of the relation between materialism and participants' rating of the interaction were conducted, and Johnson-Neyman regions of significance were computed, for men and women separately (Figure 4). Because we did not hypothesize an effect for women, and because the 2-way interaction for women was not significant, the analyses presented below for women were exploratory. For the calculation of the Johnson-Neyman regions of significance, we reverted back to the original materialism scores (i.e., the non-centered scores).

For men, materialism was negatively related to the overall rating of the interaction with the female confederate in the conspicuous consumption condition ($b = -.50$, $\beta = -.30$, $SE = .22$, $t(127) = -2.26$, $p = .026$), but unrelated in the non-conspicuous condition ($b = .31$, $SE = .24$, $\beta = .19$, $t(127) = 1.27$, $p = .21$). For women, materialism was unrelated to the interaction rating in the conspicuous consumption condition ($b = .28$, $\beta = .17$, $SE = .28$, $t(127) = 0.98$, $p = .33$), as well as in the non-conspicuous condition ($b = -.35$, $SE = .42$, $\beta = -.22$, $t(127) = -0.84$, $p = .40$). Notably, we obtained Johnson-Neyman regions of significance for men as well as for women but at opposite sides of the materialism spectrum. For men, ratings of the interaction with the woman were significantly lower in the conspicuous consumption condition than in the non-conspicuous condition, for materialism scores exceeding 3.78 (i.e., among materialistic men; 75% of the men). For women, in contrast, ratings were significantly lower in the conspicuous consumption condition than in the non-conspicuous condition, for materialism scores lower than 3.98 (i.e., among *non*-materialistic women; 42% of the women). These tests provide additional support for the hypothesis that female conspicuous consumption tends to be off-putting for *more* materialistic men. Although we made no specific predictions for women, this test indicates that female conspicuous consumption tended to be off-putting for *less* materialistic women.

7.2.2 Ratings of the interaction with participants by the female confederate

The ratings of the participant interaction made by the female confederate correlated significantly with the participant ratings, $r = .33$, $p < .001$. With the confederate's ratings as the dependent variable (and using centered scores for materialism), we observed a main effect of consumption condition, $b = -1.31$, $\beta = -.39$, $SE = .26$, $t(127) = 5.06$, $p < .001$, indicating a more negative rating of the interaction by the confederate when she engaged in conspicuous consumption ($M = 3.57$) than when she did not ($M = 4.88$). We obtained no other main effects or any 2-way interactions, all $ts < 1.25$, all $ps > .21$. Most central to our theorizing, we also obtained a significant three-way interaction of materialism, participant sex and consumption condition, $b = 1.79$, $SE = .84$, $t(127) = 2.13$, $p = .035$, $\Delta R^2 = .034$. We first followed up this 3-way interaction by testing the 2-way interaction between materialism and consumption condition for men and women separately. This interaction was significant for men, $b = 1.14$, $SE = .46$, $t(127) = 2.48$, $p = .014$, $\Delta R^2 = .046$, but not for women, $b = -.65$, $SE = .70$, $t(127) = -0.92$, $p = .36$, $\Delta R^2 = .007$.

For the confederate's ratings of her interactions with male participants, materialism was negatively related to these ratings in the conspicuous consumption condition ($b = -.53$, $\beta = -.23$, $SE = .31$, $t(127) = 1.74$, $p = .084$), but positively related in the non-conspicuous condition ($b = .61$, $\beta = .26$, $SE = .34$, $t(127) = 1.77$, $p = .078$). For the confederate's ratings of her interactions with female participants, materialism was unrelated to these evaluations of the interaction in the non-conspicuous condition ($b = .06$, $\beta = .03$, $SE = .58$, $t(127) = 0.11$, $p = .91$) but positively related in the conspicuous consumption condition ($b = .71$, $SE = .40$, $\beta = .30$, $t(127) = 1.80$, $p = .074$). We obtained regions of significance for male participants as well as for female participants, but at opposite sides of the materialism spectrum, via the Johnson-Neyman technique (again using the original materialism scores; Figure 5). For men, the confederate's ratings were significantly lower in the conspicuous consumption condition

than in the non-conspicuous condition for partners whose materialism scores were above 3.94 (69% of the men). For women, the confederate's ratings were significantly lower in the conspicuous consumption condition than in the non-conspicuous condition for materialism scores below 4.77 (83% of the women). When displaying status products, the confederate felt her interactions were worse with materialistic men, and non-materialistic women. Recall that while the confederate was not blind to conspicuous consumption condition, she was blind to the participant's materialistic values.

7.2.3 Taste test ratings

The cover story in Study 4 portrayed the female confederate as a market researcher testing fruit juice. To add credibility to the cover story, we asked participants to rate the juice they had tasted on five items; these questions allowed an exploratory test of any downstream consequences of female conspicuous consumption in a professional setting. In particular, we sought to examine whether a negative reaction to a female professional who engages in conspicuous consumption may subsequently taint evaluations of the products she presents (i.e., whether participants' evaluations of the interaction bias their evaluations of the product). To test this, we averaged across these juice rating items to obtain a taste measure, $\alpha = .91$. Overall, the juice ratings were significantly related to participants' perception of the interaction with the confederate ($r = .31, p < .001$).

We tested if participants' perception of the interaction with the confederate mediated the effect of female conspicuous consumption on the juice ratings, and if the extent of mediation depended on participant materialism and sex (i.e., moderated moderated mediation model; PROCESS model 11; see Figure 6). A bootstrap test (10,000 resamples) revealed significant moderated mediation (index of moderated moderated mediation = .51, CI = [.07, 1.22]). Conditional moderated mediation effects (i.e. moderation by materialism for each sex separately) revealed that interaction perceptions mediated the interaction effect of

conspicuous consumption and materialism on taste ratings for men (index of moderated mediation = $-.29$, $CI = [-.69, -.05]$), but not for women (index of moderated mediation = $.23$, $CI = [-.13, .71]$).

The significant index of moderated mediation for men indicates that the extent to which interaction perceptions mediate the effect of conspicuous consumption on taste ratings depends on men's level of materialism. We therefore tested conditional mediations at different levels of materialism. Within the group of male participants, we found significant mediation at high (mean + 1 SD) and mean levels of materialism (High: index of mediation = $-.52$, $CI = [-.98, -.19]$; Mean: index of mediation = $-.32$, $CI = [-.63, -.12]$) but not at low levels (mean -1 SD; index of mediation = $-.12$, $CI = [-.42, .00]$). So, high and moderately materialistic men tended to evaluate the juice more negatively when the female confederate engaged in conspicuous consumption compared to when she did not, in part because they perceived the interaction more negatively in that condition.

In sum, this exploratory analysis suggests that female conspicuous consumption may have downstream consequences for business-relevant interactions with more materialistic men. High and moderately materialistic men tended to evaluate the juice more negatively when the female confederate engaged in conspicuous consumption than when she did not, in part because they perceived the interaction more negatively in that condition. For women and non-materialistic men, no such negative indirect effect was observed.

7.3. Discussion

Study 4 examined how materialistic values might influence perceptions of female conspicuous consumption in social exchanges. In line with our expectations and the conceptual model (Figure 1), materialistic men evaluated the social interaction with a confederate posing as a market researcher less favorably when she visibly displayed status-linked products, compared to when she did not. Consistent with men's perceptions, the

female confederate partner rated the non-verbal behavior of these male participants to be less warm and friendly. The fact that the predicted effects were found for male participants, but not for female participants, suggests that materialistic men may be using information about a woman's luxury possessions to calibrate mating-relevant social behaviors. Notably, these results were produced without an explicit activation of, or reference to, a mating context during the experiment. Finally, the negative reaction materialistic men had to the female confederate seemed to also taint their ratings of a juice that the confederate had served them.

8. General discussion

The studies described here provide evidence that women's luxury displays can serve as a social deterrent to materialistic men. A pilot survey demonstrated that materialistic men are particularly likely to use status and resources to attract women. Study 1 demonstrated that having materialistic values leads people to differentially notice a woman's luxury brand, and that this brand information carries through to influence materialists' perceptions of the woman's heightened financial standards for a romantic partner. Study 2 conceptually replicated this finding among materialistic men, showing that men with strong material values infer a conspicuously consuming woman has higher financial standards for a mate (but not higher standards for other mate characteristics such as intelligence). While both materialistic men *and* women attended to a woman's luxury brands in study 1, and considered those displays as evidence of her higher financial standards (less materialistic people did not), subsequent behavior based on these displays diverged for materialistic men and women. The fact that only materialistic men (and not materialistic women) were socially deterred by a conspicuously consuming woman in our study 4 is consistent with the notion that mating-related motives are likely governing men's behavioral responses to a women's luxury displays. These findings suggest that materialistic men may utilize a woman's luxury displays to calibrate their (financially-oriented) mating efforts. If a woman has set her

financial bar very high, it will be more difficult for the average materialistic man to use his current status and resources to attract her, which should deter him from interacting with her.

The current studies suggest a woman's luxury displays are relatively subtle indicators of her high financial standards for a mate; only people with materialistic values were attuned to this information. Hence, accounting for individual differences in materialistic values helps illuminate processes by which luxury brand displays are incorporated into interpersonal perception processes, and subsequent social dynamics influenced by those perceptions. In study 3, when a woman's high financial standards for a mate are made salient to men not via subtle luxury brand displays that only materialistic people attend to, but via explicitly communicated desires for a "big spender" as a partner in a dating profile, men of all levels of materialism were deterred from interacting with that woman, compared to when she described herself as seeking a man "...who just wants to share the simple things in life with me". The pattern of results across the studies indicates that the deterrent effect of women's luxury displays may be enhanced among materialistic men because they are more likely notice her luxury possessions, and therefore upgrade perceptions of her financial standards.

In sum, study 3 demonstrated that when a woman's desire for a male partner who will spend a lot of money on her is made overt, even less materialistic men are socially deterred. This is perhaps due to other factors not examined here, such as perceptions of dissimilarity in life goals and values. Non-materialistic men may see a woman who desires a high-spending partner as being superficial, or a "gold digger". In other words, materialistic and non-materialistic men may be deterred by a woman's high financial standards for different reasons; we leave this question for future research. Over and above the effects on social judgments we document, study 4 provides evidence that these dynamics spill over to influence perceptions of products and services associated with women who engage in luxury displays. The juice product ratings being solicited by the conspicuously consuming market

researcher were lower among materialistic men, suggest their negative impressions of the woman carried through to influence perceptions of the product she was market testing.

While we argue here that the pattern of effects presented is most consistent with a mating-relevant process because materialistic men (not materialistic women) show the deterrent effect, there is also evidence from other research for a general (not sex-specific) deterrent effect of status displays when other (non-mating) relationships are salient. Garcia, Weaver and Chen (2019) found that while people believe that status displays will be effective in gaining new friends, people (receivers) actually prefer potential friends who display more ordinary (non-luxury) products or brands. These findings are consistent with other research showing that luxury displays are associated with lower perceptions of warmth and kindness, particularly among people who believe others engage in luxury displays as an impression management strategy (Cannon & Rucker, 2019). Interestingly, the effect documented by Garcia, Weaver, and Chen (2019) did not hold when people were seeking new professional connections with competent others; in this case, people believed they would be perceived more positively when displaying status goods, and receivers also preferred people with status goods as business partners compared to those displaying non-luxury products. In some professional and personal contexts, warmth may be a less important characteristics than competence (Cannon & Rucker, 2019). Consistent with a contextually sensitive evolutionary perspective on the benefits of status-linked displays, whether there is attraction or deterrent value in such displays is likely to depend on the specific relationship (i.e., context) being considered by receivers of these luxury display signals.

While signaling status via possessions appears to enhance men's perceived mate value, there is evidence suggesting that women in a mating mindset are not similarly inclined towards conspicuous consumption as a way to attract male mates (Griskevicius et al., 2007; Sundie et al., 2011). Many status products will not directly improve a women's physical

appearance (Dunn & Searle, 2010), which is a more important aspect of women's mate value than her resources (Buss, 1989). Hence, when women conspicuously consume it is unlikely this signal is intended to capture the attention of prospective male partners. Alternatively, the present research raises the possibility that women may utilize conspicuous consumption to communicate their high financial standards to prospective mates, in an effort to discourage men who cannot meet that bar. Future research can investigate whether women are motivated to send such a signal to deter undesirable (i.e., insufficiently resourced) men. Whether or not women intentionally send such signals via the display of their status possessions, materialistic men respond as if this is the case, and form more negative impressions of these women, and report less desire to engage in social interactions with them.

Indeed, it seems inefficient for many men to invest effort in establishing a warm and friendly relationship with a woman when she is signaling to him that he has a very high financial bar to meet. Of course, many--if not most--interactions between men and women are not ultimately aimed at establishing a romantic relationship. However, prior research indicates that mating mechanisms may play an important role in shaping social relations and interactions, for instance by guiding individuals' attention (Maner, DeWall, & Gailliot, 2008; Maner, Gailliot, & DeWall, 2007), even at very early stages of interpersonal perception when mating goals are not explicitly activated. In fact, the results of Study 4 indicate that even in a professional setting, in which a mating goal may not be particularly prominent, materialistic men react negatively to female conspicuous consumption. These findings are consistent with other research that has documented that evaluations of a target in a professional context may also be affected by mating-relevant cognitions (Agthe et al., 2016).

Men realize that many women seek partners who are willing and able to invest maximally in their partner and any offspring that may result from that relationship (Geary, 2000). Because adequate economic resources serve as an indicator of the ability to invest,

women are particularly likely to favor men with status and ample resources (Colarelli & Dettmann, 2003; Kenrick, Sadalla, Groth, & Trost, 1990; Li, Bailey, Kenrick, & Linsenmeier, 2002). Even for a man interested in short-term mating, a high level of status is a factor that can tip the balance in his favor (Hrdy, 1999). Given women's preferences for resources, men in a mating mindset have an incentive to engage in status-signaling via products as a means to compete with other men for a women's interest (Dunn & Searle, 2010; Griskevicius et al., 2007; Geuguen & Lamy, 2012; Janssens et al., 2010; Sundie et al., 2011). Materialistic men, in particular, have an enhanced perceived connection between consumption and status, and our pilot study results demonstrate that these materialistic men are drawn to leverage status and resources to attract women. Alternatively, for particularly materialistic men, a woman's conspicuous consumption may serve as a social deterrent. This is the opposite of what would be expected from a values similarity perspective, which would suggest that shared values (e.g., a joint appreciation for the finer things in life) would help to bring such like-minded people together.

Literature on money-priming (e.g., Vohs, 2015) has claimed that reminders of money can also lead people to show non-affiliative behavior, which raises the question of whether that literature might explain our findings. While it is possible that one might think of a luxury brand display (i.e., conspicuous consumption) as activating thoughts about money (i.e., a money prime), we believe our findings differ from money priming effects. If luxury brands serve as money primes, one would expect them to affect men and women alike. However, as study 4 shows, female conspicuous consumption only leads to non-affiliative behavior from materialistic men, and not materialistic women. The money prime literature would not predict the sex-specific pattern of results documented here.

9. Limitations and future research directions

These studies focused on reactions of younger men to a similarly-aged woman's conspicuous consumption. The results may not generalize to other age groups, as the contexts we created in these experiments are likely most relevant for men who are currently in the mating market. As people advance in age, they are more likely to form committed partnerships, and invest scarce resources in other arenas, such as parenting and other kin care (Ko et al., in press). Responses to women's conspicuous consumption may vary systematically with demographic variables such as age, relationship status, and other life stage factors (e.g., whether individuals are engaged heavily in parenting effort). Perhaps very wealthy and professionally established men, with ample resources (e.g., the 1-percenters), would not be deterred by a prospective female partner's conspicuous consumption. In fact, these wealthy men may see a woman's conspicuous consumption as evidence that she would indeed fit well within their social echelon. Further, there is the potential in future research to uncover mediators connecting women's conspicuous consumption to perceptions and behavior by materialistic men, other than the one proposed in our conceptual model. We found no evidence suggesting that materialism moderates at the second stage in our conceptual model (Figure 1). Perhaps future research could drill down further into both the first and second stages of our conceptual model, where other processes linking conspicuous consumption to social dynamics may be operating.

The current work also does not consider how younger men may view significantly older, attractive women who conspicuously consume (for instance, if the marketing researcher in our study 4 was instead an attractive woman in her 50s). Future work could examine whether men who are open to short-term relationships with wealthy, older women (referred to in popular culture as the "boy toy" phenomenon) may show the reverse of the pattern documented here. In addition, one might examine whether men who would be open

to short-term relationships with wealthy, relatively older women score higher on materialism compared to men who are not interested in such relationships. Our study 4 dependent measure did not explicitly ask about mating desirability of the confederate, because the study employed a professional interaction context. In future work, utilizing other contexts where more explicit (overt) measures of mating interest are a more natural fit that would permit examining mating desirability for different relationship types (i.e., committed vs. uncommitted), would provide opportunities for conceptual replication and extension of the deterrent effect documented here. Such future research may illuminate boundary conditions on the deterrent effect.

Why are some men (i.e., materialistic men) predisposed to rely on status and resources to attract women? Historically, materialism researchers have considered the development of materialistic values to be driven by proximate factors in an individual's environment (e.g., Rindfleisch, Burroughs & Denton, 1997). It is possible that an evolutionary perspective may be helpful in further illuminating factors that influence the development of such a value system. For instance, recent research connects following a faster life history strategy to a decreased preference for gratifying experiential consumption (Mittal & Sundie, 2017). People exposed to deprivation and inconsistent caregiving during critical developmental windows may be predisposed to follow a faster life history strategy (Belsky, Schlomer, & Ellis, 2012). Such individuals may learn to seek the perceived safety and greater predictability of material consumption in the short run, despite the fact that this consumption pattern can lead to lower life satisfaction in the long run. Future research could explore the yet-to-be examined links between the factors relevant for the development of life history trajectories and the development of materialistic values.

While the present research focuses primarily on social consequences of women's conspicuous consumption, we also explored other downstream consequences of professional

interactions between men and women in the taste-test context in study 4. Our context involved investigating outcomes of a product taste test, but one could argue that more general persuasion processes may be affected by the social dynamics we document here.

Increasingly, women are serving as front line, client-facing employees for companies in business-to-business and business-to-consumer selling contexts. Future research could investigate the consequences of conspicuous consumption in these professional persuasive interactions. The data we present here just begin to scratch the surface on the number of possible ways conspicuous consumption may be perceived, perhaps both positively and negatively, in such professional settings. Future research could explore whether, when and why conspicuous resource displays are helpful or harmful in persuasive interactions between salespeople and clients.

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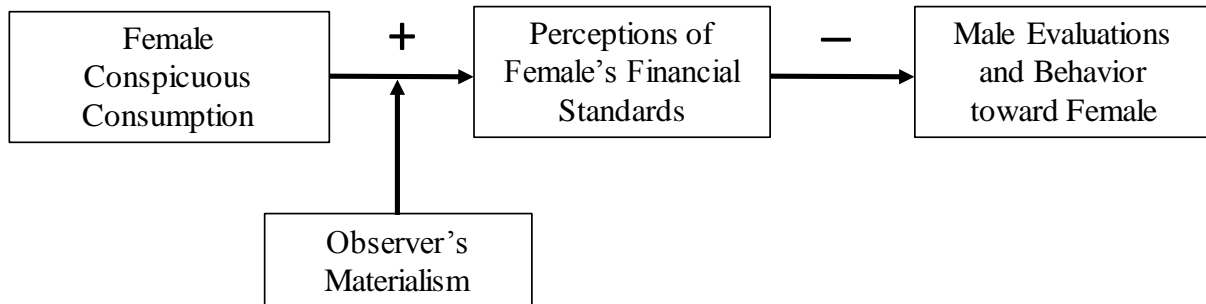
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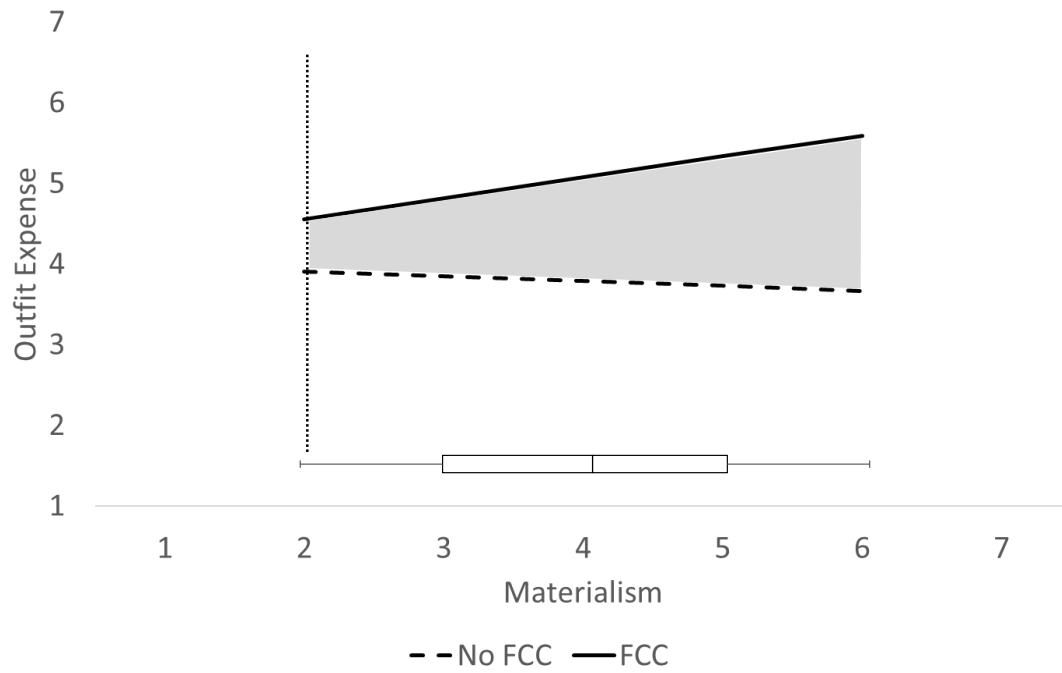
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Figure 1: Conceptual Model

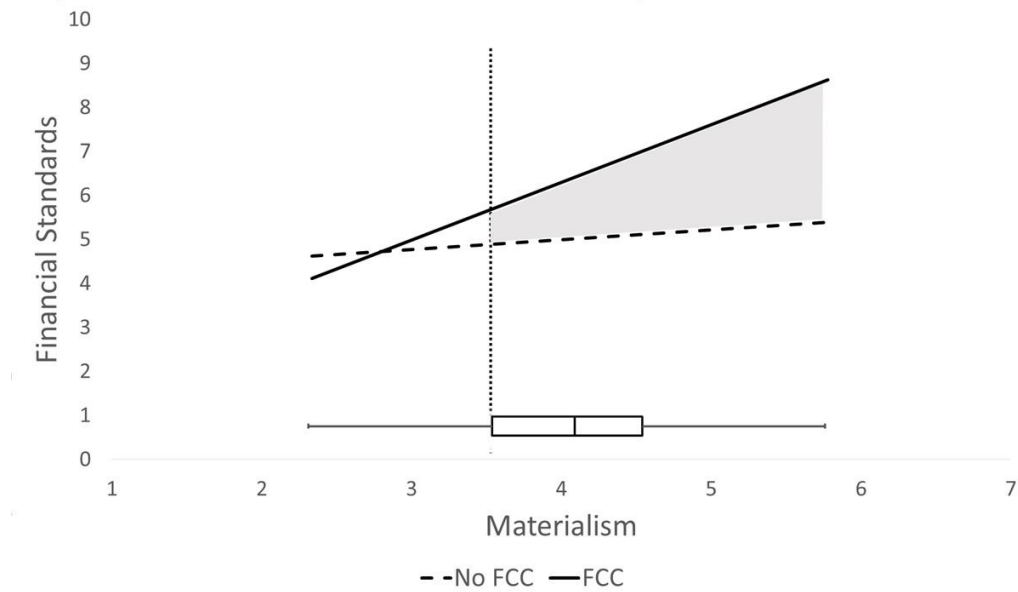
Note. The conceptual model shows the hypothesized relationships between the variables examined in studies 1-4. We expect women's conspicuous consumption to be positively related to perceptions by observers of her high financial standards for a partner, but that this relation will be moderated by materialism such that materialists will be more inclined to notice a woman's luxury displays, and thereby infer she has high financial standards. These perceptions of high standards, when salient to men, will lead men to have more negative evaluations of, and reactions to, social interactions with the female target. We expect the negative influence of a woman's conspicuous consumption on evaluations and behavior toward the woman to occur for materialistic male (but not female) observers, suggesting these effects are connected to underlying mating-relevant motives. We employed, as outlined in Spencer, Zanna and Fong (2005), a causal steps approach to testing the proposed mediation.

Figure 2: Perceived Outfit Expense as a Function of Materialism and Female Conspicuous Consumption (FCC) in Study 1



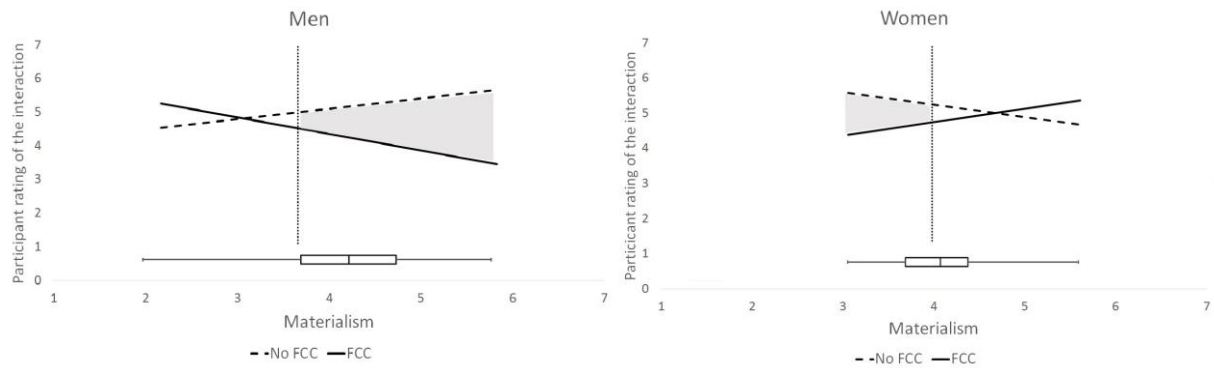
Note. The shaded area indicates the Johnson-Neyman area of significance; the boxplot above the X-axis summarizes the sample distribution of materialism.

Figure 3: Perceived Financial Standards as a Function of Materialism and Female Conspicuous Consumption (FCC) in Study 2



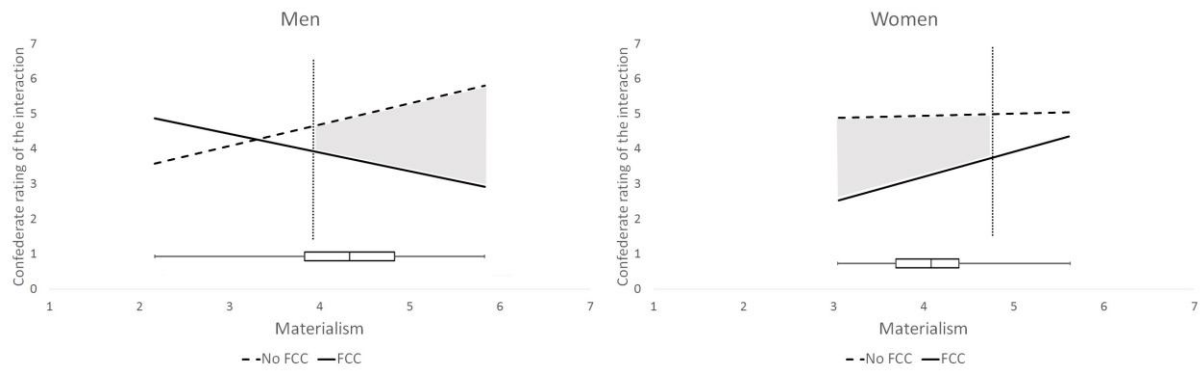
Note. The shaded area indicates the Johnson-Neyman area of significance; the boxplot above the X-axis summarizes the sample distribution of materialism.

Figure 4: Participant Interaction Rating as a Function of Materialism and Female Conspicuous Consumption (FCC) and Participant Sex in Study 4



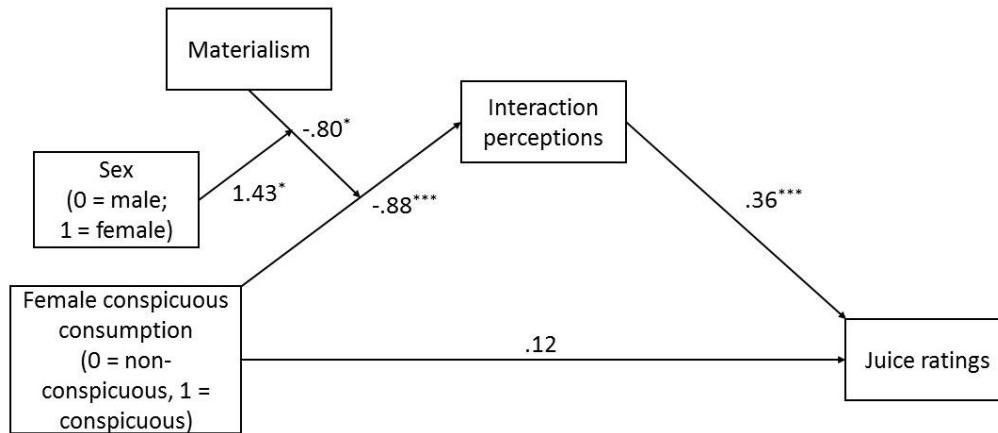
Note. The shaded areas indicate the Johnson-Neyman areas of significance; the boxplot above the X-axis summarizes the sample distribution of materialism (for men and women separately)

Figure 5. Confederate interaction rating as a function of Materialism and Female Conspicuous Consumption (FCC) and Participant Sex in Study 4



Note. The shaded areas indicate the Johnson-Neyman areas of significance; the boxplot above the X-axis summarizes the sample distribution of materialism (for men and women separately).

Figure 6. Moderated Moderated Mediation Model: The Indirect Effect of Female Conspicuous Consumption (FCC) on Juice Taste Ratings via Confederate Interaction Rating is Moderated by Materialism and Participant Sex in Study 4



Note. For simplicity, the graph excludes effects that do not contribute to the moderated moderated mediation such as the main effects of materialism and sex on interaction perceptions, or the 2-way interactions involving participant sex; none of the excluded effects are significant.

Appendix

Figure A.1

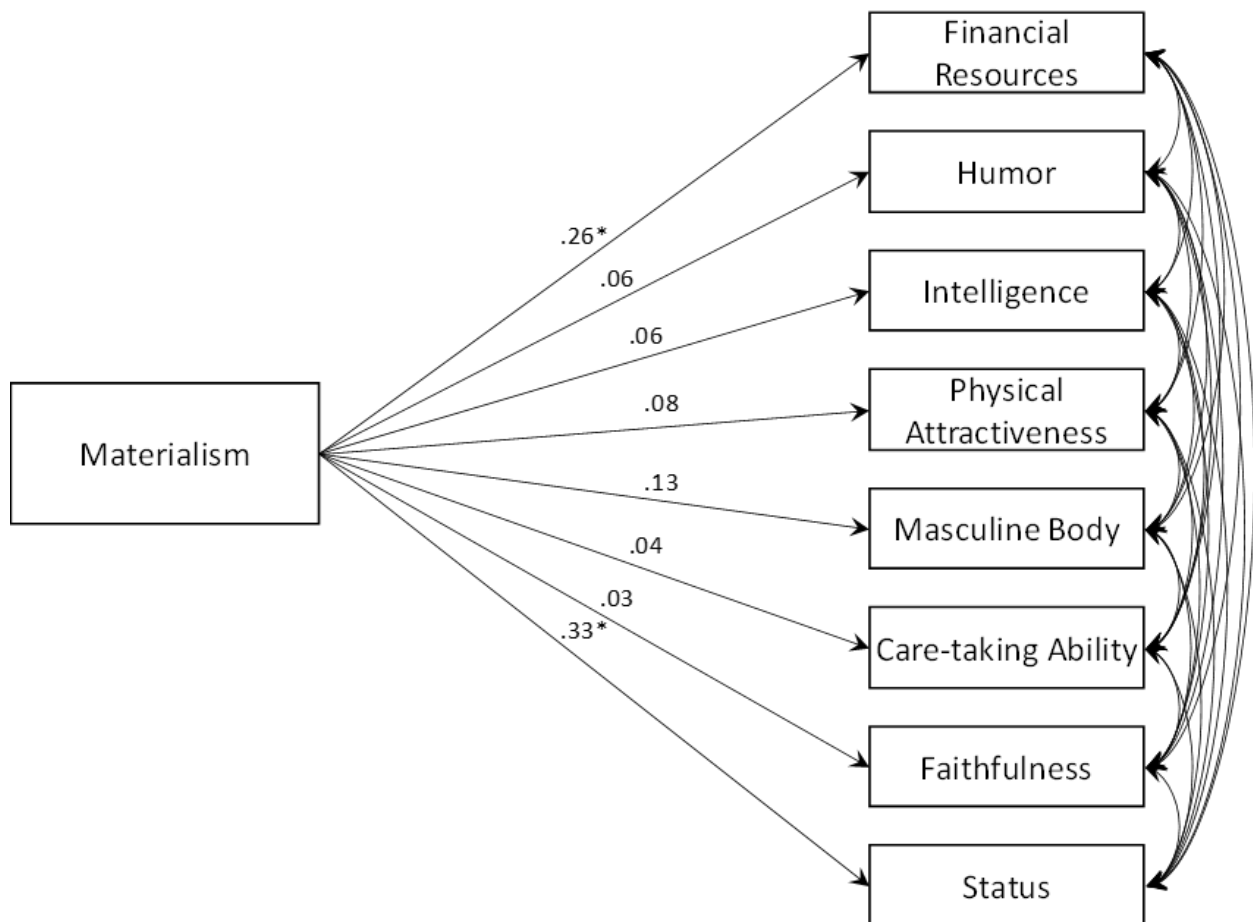


Table A.1

Characteristic:	Model:	Model 0		Model 1	
		<i>b</i>	β	<i>b</i>	β
Financial Resources		.127*	.075*	.479*	.278*
Humor		.127*	.142*	.079	.089
Intelligence		.127*	.126*	.079	.079
Phys. Attractiveness		.127*	.117*	.079	.073
Masculine Body		.127*	.073*	.079	.045
Care-taking Ability		.127*	.090*	.079	.056
Faithfulness		.127*	.087*	.079	.055
Status		.127*	.081*	.479*	.304*

* = $p < .05$.

Note. Model 0 constrains all of the paths from Materialism to the characteristics used to attract a romantic partner to be equal. Model 1 constrains the paths from Materialism to financial resources and status to be equal, and also constrains the other 6 paths from Materialism to the other 6 characteristics (e.g., Humor, Faithfulness) to be equal.

Study 1 Stimuli: conspicuous consumption condition**Study 2 Stimuli: conspicuous consumption condition**

Study 3 pre-test dependent variable of perceptions of financial standards for a partner: 4 items

1. What kind of financial standards does the woman in the profile have for a romantic partner?
2. How much money would a man need to spend on buying gifts for the woman in the profile to keep her satisfied in a dating relationship?
3. How wealthy would a man need to be to attract the woman in the profile for a romantic relationship?
4. How much money would a man have to spend when dating the woman in the profile?

Study 3 dependent variable of men's reactions to the female target: 8 items

1. How friendly do you think Carrie would be towards you, if you had the opportunity to talk to her?
2. How interested do you think Carrie would be in talking to you?
3. How much do you think Carrie would like to interact with you?
4. How much fun do you think it would be to spend time with Carrie?
5. How interested would you be in getting to know Carrie better?
6. How interested would you be in starting a conversation with Carrie?
7. How likely would you be to approach Carrie?
8. How interested would you be in going on a date with Carrie?

Study 3 social anxiety measure (the 10 items drawn from Mattick & Clarke, 1998) collected for use as a control variable

1. I have difficulty making eye contact with others
2. I become tense if I have to talk about myself or my feelings
3. When mixing socially, I feel uncomfortable
4. I feel tense if I am alone with just one other person
5. I have difficulty talking with other people
6. I find it easy to think of things to talk about
7. I worry about expressing myself in case I appear awkward
8. I have difficulty talking to attractive persons of the opposite sex
9. I find myself worrying that I won't know what to say in social situations
10. I feel I'll say something embarrassing when talking

Author Biographies:

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