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## One's Better Half: Romantic Partners Function as Social Signals

Bo M. Winegard



FLORIDA STATE UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES

ONE'S BETTER HALF: ROMANTIC PARTNERS FUNCTION AS SOCIAL SIGNALS

By

BO WINEGARD

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The members of the supervisory committee were:

Roy F. Baumeister

Professor Directing Thesis

Jesse Cogle

Committee Member

James McNulty

Committee Member

The Graduate School has verified and approved the above-named committee members, and certifies that the thesis has been approved in accordance with university requirements.

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## **ABSTRACT**

Two studies tested the hypothesis that romantic partners function as hard-to-fake signals of status. In Study 1, participants rated the status of various professional men (CEO, professor, politician). The person was described as either having married an attractive woman (high quality signal) or an unattractive woman (low quality signal). Participants rated the high quality signaler as possessing more status in all three scenarios. In study 2, participants (all men) were told that they would interact with either a high status or a low status male professor. They were given a choice to partner with either a very attractive but unpleasant woman or a less attractive but pleasant woman. In the high status condition, participants chose the very attractive partner more often than in the low status condition.

## INTRODUCTION

In a series of famous Dos Equis commercials, the most interesting man in the world (presumably an aficionado of Dos Equis beer) lives luxuriously while periodically offering witty apercus. Handsome and dapper, he sports a tasteful watch, smokes a robusto cigar, and is often pictured between two attractive women. These accoutrements signal his status and reinforce what the viewer is explicitly told: he is the most interesting (prestigious) man in the world. But why should such displays affect viewers' perception of him? And why would the commercial appear preposterous if he wore tattered jeans, a disheveled jacket, a plastic Timex watch, and was surrounded by slovenly women? Material possessions such as watches, suits, and cigars can function as signals of the qualities of the possessor's status and associated traits (Griekvicius & Kenrick, 2013; Miller, 2010; Plourde, 2008; Sundie et al., 2011). Therefore, perceivers likely infer that those who possess and/or display luxury items also possess high quality traits (e.g., high intelligence and/or status). Winegard, Winegard, and Geary (2013) argued that this same signaling theory might apply to romantic partners. That is, those who are seen with or known to date attractive members of the other sex are perceived to possess high quality traits. Because of this, Winegard et al. contended that people flaunt (or show off) attractive mates for the same reason they flaunt other prestige goods: to enhance their status (through signaling underlying high quality traits). This view differs from the proposal that signaling, especially by men, is largely a means to attract mates (Griekvicius & Kenrick, 2013; Miller, 2010).

In this paper, I argue that a person's romantic partner signals the quality of his or her underlying traits. I contend that a person's real or perceived status is the best informal measure of this quality. That is, I contend and provide evidence that a romantic partner signals a person's status, which is comprised of an estimate of traits such as intelligence, ambition, kindness, and

other social skills. In this sense, romantic partners function like other prestige goods. Because of this, I hypothesized that observers should rate men with attractive partners more favorably than men with average partners. I also hypothesized that men would choose to flaunt (or display, signal) an attractive woman to a high status male more than to a relatively low status male. The prediction that men would flaunt to other men is an exclusive prediction of the signaling theory of mate flaunting, which argues that mate flaunting is a cultural display designed to enhance one's status. This prediction—that men would flaunt to other men—would not straightforwardly follow from other explanations of mate flaunting, which argue that females use the mate choices of conspecifics to improve their own mate choices (e.g., mate quality bias; mate choice copying; see, Vakirtzis & Roberts, 2009).

### *Signaling Theory*

Some traits, such as height and gender, are easily observed, but some important ones are not. A person's intelligence cannot be directly perceived and often requires protracted observation to estimate (Plourde, 2008). Signaling theory addresses how difficult-to-perceive traits such as intelligence can be communicated to perceivers through visible acts and signals and how others evaluate such signals (Maynard Smith & Harper, 2003). Intelligence, for example, can be signaled by academic titles, sesquipedalian discourse, or doctoral degrees (Lynn & Mikk, 2007; Schmidt & Hunter, 2004; Spence, 1973). However, there is a potential conflict of interest between perceivers and senders of signals because low-quality signalers are often motivated to feign the possession of high-quality traits. A relatively unintelligent man might seek to gain social advantages by appropriating or faking signals. Duped perceivers would suffer costs associated with partnering with such an unintelligent man for business or romance. If the strategic misuse of such signals became sufficiently common, perceivers would learn to mistrust



them as reliable indicators, and the signals would lose their power to convey an impression of intelligence (Akerlof, 1970).

The result of this potential conflict is the evolution of hard-to-fake signals (Zahavi & Zahavi, 1997). According to Cronk (2005), a hard-to-fake signal is hard to fake for one or both of the following reasons: 1) it places costs on the signaler that are difficult for dishonest signalers to afford (that is, it may or may not be costly for honest signalers; Getty, 2006), or 2) it is inextricably connected to what it signals (this is called an index in the literature, Maynard Smith & Harper, 2003). These processes are not always easy to disentangle (Searcy & Nowicki, 2010). An expensive and ostentatious mansion, for example, is nearly inextricably connected to one of the traits that it signals: wealth. An indigent man simply could not afford to purchase a mansion. Upon the other hand, he might inherit a mansion from his parents independent of his own poverty; but, if he did, the property taxes would require significant sacrifices from other areas of expenditure, whereas those property taxes would not require the same sacrifices from an affluent man (i.e., the signal would cost the poor man more relative to the rich man). Many of the most commonly cited examples of indices from the biological world are similarly ambiguous (Searcy & Nowicki, 2010). Whatever the exact underlying mechanisms, the important point is that hard-to-fake signals are reasonably honest because of the constraints they place on dishonest signalers. Return to the intelligence example from above. A doctoral degree from an elite institution is a reliable, hard-to-fake signal of intelligence because elite degrees are almost prohibitively difficult for relatively unintelligent people to obtain (Gottfredson, 1997). Not only that, but also it would require many sacrifices (e.g., many sleepless nights of studying) for even a moderately intelligent person to obtain such a degree.

### *Signaling Theory and Mate Flaunting*

From pretty plumage to fashionable clothing; from a chiseled jawline to an expensive bottle of bourbon; from a garish gular sack to an expensive sports car, sundry bodily features and cultural artifacts can serve as hard-to-fake signals (Krebs & Davies, 1987; Miller, 2010; Young, Nunes, & Dréze, 2010). On the surface, these disparate features and artifacts appear to share little. But, from a more abstract perspective, they share several qualities that allow them to function as hard-to-fake signals. First, they are visible to other organisms. Second, they are easy to assess. And third, they are reliably related to what they signal. In principle, anything that fits these criteria can function as a hard-to-fake signal because it can convey information to others that is reasonably accurate and that might otherwise require significant effort to unearth (Bird & Smith, 2005). Biologists have explored the signaling logic of many physical features of organisms, and psychologists, economists, and anthropologists have begun to explore the signaling logic of many cultural artifacts and displays (Bird & Smith, 2005; Sundie et al., 2010). These explorations have unveiled many potential signals and have partially explained many previously enigmatic human social and consumer behaviors such as wasteful purchases, conspicuous displays of luxury goods, the creation and dissemination of poems and novels, and the rapidly inflating size of houses (Carlsson, Johansson-Stenman, & Martinsson, 2007; United States Census Bureau, 2010; Frank, 1985; Nelissen & Meijers, 2011).

Despite this attention, few researchers have noted the potential signaling function of romantic partners (or other human associations in general; but see Miller, 2010; Veblen, 1899/1994). Romantic partners fit the three criteria a signal must satisfy. They are (1) visible to others; that is, a person's romantic partner is often known to others and can be perceived or inferred through socially sanctioned signals such as hand holding, kissing, Facebook statuses, et

cetera ;(2) easily assessable by physical appearance and possibly reputation; and (3) reliably related to the underlying quality of a person's traits. Of these, the second and third require justification; the first appears self-evidently true.

Some aspects of the quality of a person as a mate are easily assessable. Attractiveness, for example, is easily assessable because humans possess inherent mechanisms that respond to the aesthetics of others (Winston, O'Doherty, Kilner, Perrett, & Dolan, 2007). These mechanisms are probably tuned by the attractiveness of the surrounding mate pool, but they are still automatic and relatively impervious to most extraneous sources of information (e.g., a person cannot convince you that Marilyn Monroe is unattractive by simply saying that it is so). Other aspects of quality are at least partially perceptible or inferable. Wealth and social status, for example, can be inferred from visible cues and signals (Dunn & Searle, 2010; Miller, 2010). Furthermore, these sources of information are augmented by reputation and the explicit desires of others in the social milieu. If every woman you speak with is smitten with Thomas, for example, you can reasonably infer that Thomas has desirable qualities.

A person's romantic partner (and the amount of attention he or she commands from the other sex in general) is reliably, although not infallibly, related to the quality of his or her underlying traits because high quality mates are scarce and coveted (Buss & Shackelford, 2008). To obtain one of the top few romantic partners in a local (and a fortiori in a broader) mating pool, one must compete against myriad other people who are similarly striving to obtain a top partner. Because both men and women desire the best possible romantic partner, the top mates in a mating market have the luxury of discriminating among a plethora of suitors (Baumeister & Vohs, 2004; Symons, 1979). Stated in economic terms, the demand for high quality members of the other sex is high and the supply is low, forcing an intense competition that winnows out

many competitors. This competition is analogous to the competition for a coveted luxury good. Only the most ambitious, intelligent, and crafty people can obtain the resources to purchase a widely desired but rare item. This process ensures that the quality of a person's romantic partner is reliably related to his or her underlying traits (Jian, Bolnick, & Kirkpatrick, 2013; Russell, Wells, & Rushton, 1985). This association between the quality of a person's romantic partner and his or her own traits allows social observers to make social assessments more accurately and efficiently, which are often important, especially as social environments become large and anonymous (see Plourde, 2008 for similar arguments about prestige goods). Of course, the relation between the quality of a person's traits and his or her romantic partner is not one to one. Men and women often change romantic partners (moving up or down in quality) without changing the quality of their own traits. But, so long as there is a relation (the exact nature of the relation is an empirical question), then a person's romantic partner can provide useful information about his or her underlying traits.

Suppose, for example, that you enter a novel social environment. You are assailed by a bewildering array of new faces. Each might make a good social partner; conversely, each might make a poor social partner. You could invest a prodigious amount of time sedulously studying each person, attempting to discern information about his or her underlying traits, but this time expenditure is costly—there are often better things you could be doing. To save time and energy, you should use every possible clue available to make quick judgments about your new peer group. If Tim is only moderately attractive and dresses sloppily, you might quickly infer that Tim has low to moderate social status and therefore might be a poor social partner. However, if you observe Tim with a very attractive, well-dressed partner, you might revise your supposition. This revision might compel you to seek out Tim at social settings or, at minimum, to seek out

more information about him.

Because social observers use the quality of a person's romantic partner to make inferences about his or her traits, a person coupled with a relatively high quality romantic partner should desire to flaunt or show off that partner to peers and/or personally relevant observers. Conversely, a person with a relatively low quality partner should be motivated to conceal or hide that partner. People can flaunt in many ways. The simplest, probably, is to accompany the partner (or have the partner accompany) to social functions or public spaces (e.g, the mall, college mixers, school dances, restaurants). Other ways include bragging about the partner, making Facebook updates about the partner, and posting photographs of the partner. Similarly, people can conceal in many ways. The simplest is to avoid social functions or public spaces--or to attend them alone. Perhaps more important and flexible than the behaviors of a partnered person are the behaviors of a single person browsing the market. This person might actively choose to avoid unattractive members of the other sex to avoid negative assessments; conversely, he or she might also purposefully cultivate associations with attractive members of the other sex to garner positive assessments. This might, therefore, affect real-world mating decisions. In other words, a person who might otherwise be interested in dating a man or woman might curb his or her desire because of the expected social ramifications.

Evidence shows that people do in fact assess another person based on the attractiveness of his or her other-sex associates. Strane and Watts (1977), for example, found that women who were photographed with unappealing men were rated less favorably than those who photographed with handsome men. Sigall and Landy (1973) found similar effects. Specifically, they found that people who were associated with attractive confederates were rated more favorably than people who were associated with unattractive confederates. Waynforth (2007),

and others (Eva & Wood, 2006; Hill & Buss, 2008), have found congruent results using a number of different methods. More recent, but limited, evidence also indicates that men and women flaunt attractive members of the other sex (Winegard et al., 2013).

To summarize briefly, humans use cues, signals, and other sources of information to infer the quality of a person's underlying traits. Those inferences affect a person's behavior toward another. In complicated, populated, and relatively anonymous social environments, such cues and signals become important because extensive knowledge about individuals is arduous to obtain. One might have a choice between spending time or energy on only one or two people in a group of 100 or more. Because of this, humans in such environments should be concerned with the cues and signals they broadcast to the wider social world.

#### *Mate Quality Bias or Signaling*

Researchers in biology and psychology have put forward a theory that may explain mate flaunting in humans (mate quality bias). However, the signaling theory is somewhat different from this explanation and makes several different predictions, one of which is tested and presented below. Therefore, it is important to distinguish the signaling theory from mate quality bias or mate copying explanations of mate flaunting.

In the early 90's, researchers discovered that females of certain species, including guppies and sage grouse, are preferentially attracted to males that garner attention from other females (this attention may include sex, but need only include proximity) (Pruett-Jones, 1992). Researchers offered two explanations for this phenomenon. First, it reduces the search costs of the females. Analyzing the mate quality of an organism requires time and cognitive attention. Copying the choice of a conspecific reduces the time and effort required to find a viable mate. Second, it increases the discrimination of females. It is not always easy to assess the quality of a

potential mate. If a female augments her own assessment with the assessments of other females, she can improve her decision-making, ultimately choosing a higher quality mate. Vakirtzis and Roberts (2009; 2010) added an important refinement to this theory. They argued that in monogamous species such as humans, what should arise is not indiscriminate mate copying, but mate quality bias. Mate quality bias means that women are influenced not only by the choices of other women, but also by the *quality* of other women (the quality of the women making the choices). *Ceteris paribus*, women should be more influenced by the choices of attractive women than by the choices of unattractive women. This straightforwardly predicts mate flaunting because men can increase their desirability to other women by flaunting attractive partners. (Women find men with higher quality partners more desirable according to the logic of mate quality bias.)

Although mate quality bias is a reasonable proposal, I believe that a signaling explanation of mate flaunting is more parsimonious because it absorbs mate flaunting into a broad, well-tested theory of animal behavior. Furthermore, everyday observation suggests that men often flaunt attractive partners to other men to obtain status, respect, or props. That is, men seem desirous to show off or brag about their high quality romantic partners or lovers to other men and other women. Research suggests this informal observation is true. For example, Regan and Dreyer (1999) found that men reported that casual sex was often a way to enhance their status or prestige. If so, it would make sense that men would boast about casual sex so that they could spread information about their sexual conquests as widely as possible. This behavior is difficult to explain from the logic of mate quality bias. Vakirtzis and Roberts (2009; 2010), for example, argued that mate quality bias *is primarily driven by women*. According to their perspective, women use the quality of other women to assess the quality of a man. Mate flaunting, therefore,

is driven by men who flaunt to other women to enhance their desirability. This suggests that men should flaunt to women, but not to men. In fact, if men's recompense for flaunting is only an increase in desirability, then men should not flaunt to other men at all. Upon the other hand, the signaling theory of mate flaunting contends that a person's romantic partner is a signal of his or her status; therefore, it strongly predicts that men should flaunt to other men. This hypothesis is tested below.

A more conciliatory approach might argue that mate quality bias is one part of a signaling approach to mate flaunting. That is, mate quality bias is not incorrect and is, in fact, perfectly congruent with the signaling theory of mate flaunting. Mate quality bias made accurate predictions about men's flaunting to women; it was not interested in men's flaunting to men. In this sense, the two theories are not mutually exclusive; one is complementary to the other. And, in fact, a signaling approach *predicts* the mate quality bias theory of flaunting.

### *The Current Work*

Across two studies I examined the signaling logic of other sex associates. Study 1 compared judgments of status, niceness, and competence about men with high quality mates to such judgments about men with low quality mates. Study 2 compared the flaunting behaviors of men who were assigned to interview a high status professor to the flaunting behaviors of men who were assigned to interview a low status professor. Therefore, I studied both the receiver (study 1) and the sender (study 2) sides of the signaling process.



## STUDY 1 INTRODUCTION AND METHODS

Study 1 tested the hypothesis that the quality of a man's mate can enhance or decrease the status of a man. Participants were asked to rate the status of three different men who were described as having either a very attractive wife (high quality condition) or an unattractive wife (medium condition). I predicted that when the man was described as having an attractive wife, he would be rated as higher in status and competence than when he was described as having an unattractive wife. I also asked participants to rate the target's niceness. I did not have a strong prediction about the effect the quality of the signal would have on judgments of the target's niceness. I tentatively predicted that observers might think a man with an attractive wife is more superficial and therefore less nice than a man with an unattractive wife, a kind of "reverse" flaunting effect.

### *Method*

*Participants.* One hundred-twenty three participants (41 men, 82 women; mean age = 37.04, SD = 12.78) completed surveys on Mturk in exchange for a modest monetary reward. Three participants were removed because they did not complete the survey.

*Procedure.* Participants read and responded to one of two conditions (attractive wife/unattractive wife) of descriptions of three different men (Steve, Fred, John). Steve was described as a CEO; Fred was described as a politician; and John was described as a professor. Each man's attractiveness was described and remained the same across conditions to rule out imputations of attractiveness (or unattractiveness) as a driver of effects (i.e., so participants didn't think that the man with an attractive partner was more attractive than a man with an unattractive partner). For example, the Steve scenario was as follows (the brackets indicate the alternative condition and the italics indicate what the bracketed words replaced): "Steve is the

CEO of a large company. He is 45 and has worked at the company for most of his life. He is somewhat attractive (people would probably rate him as a 6). Steve has an *extremely attractive wife* (people would probably rate her as a 10) [*unattractive wife* (people would probably rate her as a 4)].”

After reading one condition, participants answered several questions about the target on a 7-point Likert scale such as “how nice is Steve?” “how much status does Steve have?” and “how much would you want Steve as your boss?” They then read another condition of the next description, and repeated until they had read one condition from all three descriptions. All items are provided in Table 1 (or should this go in the appendix?).

## STUDY 1 RESULTS AND DISCUSSION

### *Results*

I compared judgments of each man in the attractive-wife condition to each man in the unattractive-wife condition using independent samples t-tests. The prediction that men would be perceived as having higher status in the attractive-wife condition was supported in every scenario (see Figure 1.). Table 1 summarizes the results. Effects sizes ranged from  $d = .35$  to  $.69$ .

The hypothesis that men would be perceived as having higher competence in the attractive-wife condition than in the unattractive-wife condition was partially supported. Participants judged Steve as more intelligent,  $t(121) = 2.41, p=.018$ , and more qualified,  $t(121) = 2.38, p=.019$  in the attractive-wife condition than in the unattractive-wife condition. Participants also judged Fred as smarter,  $t(121) = 2.03, p=.045$  in the attractive-wife condition than in the unattractive-wife condition. However, participants did not judge Fred or John as more qualified, more worthy of a vote, or more skilled at writing a book. It is worth noting that some of these were trending in the predicted direction (see Table 1.).

Last, the hypothesis that men would be perceived as less nice in the attractive-wife condition than in the unattractive-wife condition was not supported. P values across the men ranged from  $p=.19$  to  $.76$ , and the largest effect was in the opposite direction, that is, participants perceived Fred as nicer,  $t(121) = 1.32, p=.1$ . I check for sex by condition interactions for every analysis, but none approached significance.

### *Discussion*

Across three different men (Steve, CEO; Fred, politician; John, professor) a consistent pattern of status attributions emerged. In the attractive-wife condition, each man was rated as possessing higher status than in the unattractive-wife condition. These results were significant in

each study, and quite robust. Other patterns were more mixed. In general, participants indicated that they thought that each of the men was more competent (smart and qualified) in the attractive-wife condition than in the unattractive-wife condition. However, these results were not significant for each item. Specifically, five out of eight such items were significant; two were trending; and one was not close to statistical significance. In general, then, the results supported the hypotheses of the signaling theory of mate flaunting. Last, participants did not believe that the men were less nice in the attractive-wife condition than in the unattractive-wife condition. The signaling theory did not make an obvious question about perceptions of niceness, and I tentatively speculated that perhaps judges would think that men who had very attractive wives were superficial, snobby, and possibly rude. However, my results did not support that hypothesis. They did support the contention that perceivers are influenced by the attractiveness of a man's romantic partner, even after accounting for the man's own attractiveness.

## STUDY 2 INTRODUCTION AND METHODS

Study 2 was designed to extend the investigation of the signaling perspective in several ways. First, it was designed to probe the sender side of the signaling process. Study 1 showed that perceivers are affected by the attractiveness (or unattractiveness) of a man's romantic partner (wife); however, it did not determine whether men are aware of this or if they actively use their romantic partners (or putative partners) to signal status to observers. Study 2 filled this lacuna. Second, Study 2 directly pitted the signaling theory of mate flaunting against the mate quality bias theory of mate flaunting. Because the signaling theory of mate flaunting contends that mates are status signals, they should be flaunted to the same audiences that men target with other status signals. Although some have suggested (or seem to have suggested) this might be exclusively or primarily women (Miller, 2000), recent theory and evidence suggest, in fact, that men also—possibly even primarily—target male audiences with signals of status, dominance, and prestige (Anderson & Kilduff, 2009; Henrich & Gil-White, 2001; Puts, 2010; Winegard, Winegard, & Geary, 2014). I therefore predicted that men would flaunt to a high status man. This prediction *would not follow* from the mate quality bias theory of mate flaunting, which would, in fact, seem to suggest that men should not flaunt to other men.

Participants in Study 2 were exclusively men and their target audience was one ostensible professor (they never actually met him) who was either described as from Harvard (high status) or from a small community college (low status). Participants were told that they would meet, interview, and study this professor with a partner whom they would describe as their girlfriend. They had to choose this partner from two options. One was a very attractive but unpleasant (not nice) woman; the other was an attractive (but less attractive) but pleasant (nice) woman. I chose to use two relatively attractive women because I wanted men in some conditions (e.g., a low

status condition) to prefer the attractive and pleasant women to the very attractive but unpleasant woman. If men simply preferred the very attractive (but unpleasant) woman in every condition (e.g. because their only other option was a very unattractive woman), it would shrink the variance between the conditions because men would choose the very attractive woman regardless of the condition.

Because the interaction with the professor was supposed to be relatively brief (between 15-25 minutes), the personality of the woman would be *relatively* unimportant, and her attractiveness would be very important, because it would be immediately obvious and assessable. Therefore, I classified the very attractive but unpleasant woman as the “higher quality” signal. I predicted that the participants would pick the very attractive woman relatively more in the high status condition than in the low status condition; that is, their desire to flaunt (very attractive woman) would trump their desire for a nice interaction (attractive woman) more in the high status condition. Participants also filled out a status seeking scale. The signaling theory of mate flaunting contends that men flaunt their mates (or putative mates) to obtain status; therefore, a man’s desire for status should predict his tendency to flaunt such that as a man desires more status he is more likely to flaunt his mate. I therefore predicted that a man’s score on the status seeking scale would predict his likelihood to choose the very attractive but unpleasant woman.

### *Method*

*Participants.* Sixty-two undergraduate men at Florida State University (mean age 19.87, SD = 1.28; 1.17) participated in exchange for partial course credit.

*Procedure.* Participants were told that they were going to interview and study a professor. They were told that *they* were going to get to report back to the researchers about the professor’s behavior, mannerisms, et cetera. They were told that they would meet with the professor with a

female partner, whom they would get to choose from two options. Previous studies, the research assistant told them, had discovered that men and women treat people in a relationship differently than they treat people who are single. The research assistant told the participants that we wanted to see if even professors treated coupled people differently than they treat single people.

Participants were told that their two possible partners were behind doors in different offices and that they would only meet the partner they chose. The other woman would not be told that they did not choose her. They were told that they would have a five-minute period of socialization with their partner before going to “interview” the professor. They were instructed to create a backstory for their relationship during that time, because it might make their putative relationship more believable to the professor.

In the high status condition, the participants were told that the professor was visiting from Harvard, and that he had made very important contributions to the field of psychology. In the low status condition, the participants were told that the professor was visiting from a small community college, and that he had not made any contributions to the field. The professor’s status was mentioned to the participant at least three times for emphasis.

The participants were then given a pamphlet with some demographic questions, pictures and descriptions of their putative partner options, and status scale that was comprised of ten items. The research assistant asked the participants to fill out the demographic questions. The research assistant then told the participant:

“On the next two pages, you will see your possible partners. Both have agreed to release their Facebook photo for us to use. Some women did not agree. They did another task for credit. Both women also took personality tests. The results of those tests are on the pamphlet. So, too, is a

brief quote that they offered for this pamphlet. Please remember that you will have to talk to this person for five minutes before doing your interview. You will have to make up a story about your relationship and tell the professor that you are in a relationship. When you are ready to make your decision, flip to the next page in the pamphlet and answer the questions. Then flip to last page and answer the questions. When you are done, please ring the bell, and I will come back in.”

For the experimental stimuli, I carefully chose two women from a pre-rated (eight men and eight women rated) set of roughly three by three inch black and white pictures who were both attractive. One of the women, however, was *very* attractive and the other was only attractive. I then had five research assistants rate both of the pictures again on a ten-point scale. The very attractive woman was rated 9 (sd =.71) and the attractive woman was rated 7.4 (sd = .55). I then created personality scores for each of the women, striving to make the very attractive woman relatively unpleasant, and the attractive woman pleasant. Five research assistants also rated the niceness of the women. The very attractive and unpleasant woman was rated a 2.8 (on a ten-point scale; sd =1.48), and the attractive and pleasant woman was rated an 8.8 (sd =.45). I also strove to keep all other characteristics similar between the women—with input from my research assistants (see General Discussion). Last, I gave each a brief statement that was placed by their personality scores under their pictures in the pamphlet. The unpleasant woman’s statement read:

“Should I say this...Well, I don’t really like many things. I like my dog..ha..ha. I don’t like people. Some women call me mean or antisocial, but I just don’t like talking to people who are



dumb or uninteresting. I party once in a while. I like some movies. Basically, I hate it when people get in my way or stop me from doing what I want to do.”

The pleasant woman’s statement read:

“I enjoy people and music. I am generally happy, but I realize there is suffering in the world, and that makes me sad. My favorite thing in the world is meeting new people and talking about things. I like to talk about pretty much everything.”

Participants were asked to make a forced choice (either partner A or B) and to indicate how much they preferred their choice, from 1 (very much prefer A) to 7 (very much prefer B). Participants were then asked to indicate on a 7-point scale why they chose their partner: because she was (1) smart; (2) attractive; (3) wanted to talk with her; (4) she seemed to have high status. (Participants answered each adjective or phrase on the 7-point scale). Last, the participants answered ten questions on a status-striving scale.

*Status-Striving Scale.* I created a ten question status-striving scale. I had used this scale in a previous, unpublished experiment (Winegard, 2014), and the items had good reliability scores, i.e.,  $\alpha > .8$ . Here are some sample questions. “I want to have status in life,” “Status is more important than anything,” and “I value other people more than status.” Participants were asked to rate how much they agreed with these statements on a 7-point scale (1 = very much disagree; 7 = very much agree). I ran standard reliability analyses, and I found that it had a poor alpha,  $\alpha < .6$ . It is likely that the scale didn’t exhibit the same properties as before because I used a much more restricted sample (i.e., college undergraduates) this time, whereas I had used a broader sample before (an Mturk sample with diverse ages and ethnicities). Therefore, I did not use the status-

striving scale in any analyses. (When I used individual items as predictors, they weren't significant in either direction and  $p$ 's ranged from .4 to .8; however, when the entire scale was used there was a slight difference in means such that those who picked the less attractive woman actually had a higher mean  $M=35.67$ ,  $sd=6.18$  than those who picked the very attractive woman, mean  $M=33.07$ ,  $sd=7.53$ ; however, this was not significant,  $p=.19$ ; however, because of the poor psychometric quality of this scale, those results are dubious.)

## STUDY 2 RESULTS AND DISCUSSION

### *Results*

Across both conditions, 14 out of 62 (22.5%) participants chose the very attractive woman. Consistent with my hypothesis, a logistic regression analysis revealed that participants were significantly more likely to choose the very attractive woman in the high status condition than in the low status condition, Wald= 5.6,  $\text{Exp}(\beta) = 5.6$ , 95% CI = 1.38-22.73,  $p = 0.016$ . (For choice rates by condition, see Table 2.). In the high status condition, 11 out of 30 (37%) participants chose the very attractive woman, whereas only 3 out of 32 (9.4%) chose the very attractive woman in the low status condition. An independent samples t test also revealed that participants in the high status condition reported preferring the very attractive woman ( $M=3.22$ ,  $sd=1.83$ ) more than participants in the low status condition ( $M=2.28$ ,  $sd=1.33$ ),  $t(52.68) = 2.29$ ,  $p<.03$ .,  $d=.59$  (the assumption of equal variances was violated).

Participants who chose the attractive woman indicated that they made their decision because she was “nice” significantly more ( $M=6.1$ ,  $sd=1.29$ ) than those who chose the very attractive but unpleasant woman ( $M=3.86$ ,  $sd=1.46$ ),  $t(60) = 5.56$ ,  $p<.001$ .,  $d=1.63$ . Participants did not report choosing the very attractive woman because she was attractive significantly more ( $M= 4.43$ ,  $sd=1.34$ ), than the participants who chose the attractive woman ( $M= 4.6$ ,  $sd=1.45$ )  $t(60) = .4$ ,  $p=.69$ . However, this is arguably a bad comparison because subjects *weren't asked how much they chose their partner over the other option* based on attractiveness; rather, they were simply asked how much attractiveness figured into their current choice. A better comparison between the two groups, then, is to contrast how much one group indicated that attractiveness figured into their choice *relative* to niceness. This analysis was indeed significant in the predicted direction. Specifically, those who chose the very attractive woman reported

choosing her more because she was attractive than because she was nice (for this, I subtracted attractiveness from niceness;  $M = -.57$ ,  $sd = 1.65$ ); and those who chose the attractive woman reported choosing her more because she was nice than because she was attractive ( $M = 1.5$ ,  $sd = 1.99$ ). The comparison between these differences was significant,  $t(60) = 3.55$ ,  $p < .01$ . I ran similar analyses across conditions, but the results were not significant (high status  $M = .73$ ,  $sd = 2.13$ ; low status  $M = 1.31$ ,  $sd = 2.05$ ),  $t(60) = -1.09$ ,  $p = .28$ .

### *Discussion*

Consistent with the predictions of the status signaling theory of mate flaunting, men in the high status condition were more likely to choose the very attractive but unpleasant woman over the attractive but pleasant woman. This is striking because the unpleasant woman was not *much* more attractive than the pleasant woman (means are 9 and 7.4), and the pleasant woman is *much* nicer than the unpleasant woman (the means are 8.8 and 2.8 respectively). The men in the high status condition who chose the very attractive woman were sacrificing a very pleasant personality for a few increments in attractiveness. I interpret this choice as a decision for a “higher quality” signal.

Men who chose the more attractive woman also reported caring more about her attractiveness than her niceness, which further supports this interpretation of the data. It should be noted, however, that in both conditions the men had a preference for the attractive and nice woman over the very attractive and unpleasant woman. This is not surprising because the nice woman is still *quite* attractive (7.4/10). What is important, though, are the men’s relative choices in each condition, which illustrate a clear and statistically significant pattern such that men in the high status condition chose the very attractive woman more than men in the low status condition.

## GENERAL DISCUSSION AND CONCLUSION

Study 1 showed that participants (both men and women) judged a man with a very attractive wife as having higher status than the same man with an unattractive wife. Participants also rated men with attractive wives as having more competence (intelligence, job qualifications) than the same men with unattractive wives in about half (4/10) of the questions. This provides support for the signaling theory of mate flaunting because it shows that judges use a man's partner's attractiveness as a indicator of *his* status. This is also consistent with Winegard, Winegard, and Geary's results (2013), which indicated that men believed that flaunting an attractive partner would increase perceptions of their status. Study 2 showed that men who believed they were going to interact with a prestigious professor were more likely to choose a very attractive but unpleasant woman over an attractive but pleasant woman than were men who believed they were going to interact with a low-status community college professor. This seems to indicate that the men in the high status condition (prestigious professor) were prepared to sacrifice a pleasant interaction to obtain a higher status signal (more attractive woman).

The first experiment was limited by several factors. First, it was an online study using brief vignettes; therefore, it is subject to all the limitations of such studies and is only minimally ecologically/externally valid. Perhaps, for example, participants' believed that they would think the target man in the vignette had high status in the high attractiveness condition, but if they really met him and saw his wife, they wouldn't think so (e.g., they would think he was superficial if they actually saw him with his wife). And second, very limited information was given about the men in each study, forcing participants to judge from the target from a few isolated facts such as the target's occupation and the attractiveness of his wife. This almost certainly increased the size of the effects. Although this limitation decreased the external validity

of the study, it also arguably increased the internal validity because it stripped extraneous details (Mook, 1983).

The second study also suffered from some limitations. First, the status-striving scale did not possess appropriate psychometric properties. I therefore dropped it. However, it is worth noting that the results I obtained with the scale were in the opposite direction from what I predicted, although they did not approach statistical significance. Because the scale's psychometric properties were so poor, I hesitate to speculate about these results. However, they merit some consideration for future studies. It might be that the scale works better with broader more diverse populations, and that its results are relatively meaningless with such a restriction of range. College students are all reasonably ambitious; otherwise they would not be in college. Because of this restriction of range, the scale may not capture important and subtler distinctions between the participants. Or perhaps small individual differences in status striving do not predict flaunting behaviors. Future research is needed to support or cast doubt on these speculations.

Second, because the woman's pictures in this study were *always* connected to the same personality description and blurb, it is possible that the effects were driven by something other than attractiveness. For example, perhaps the men in the low status condition wanted to bring a kinder woman to meet the community college professor, whom they believed would be a nice guy. I did not get ratings of the expected personality characteristics of the professors, so I cannot rule this out. Or, possibly the men in the high status condition believed that the very attractive woman *sounded* smarter or more discriminating than the other woman and would therefore impress the prestigious professor. Although I did not obtain formal ratings at first, five research assistants and a colleague told me (and they were unaware of my hypotheses) that the women sounded about equally intelligent and that, if anything, the less attractive woman sounded

smarter. I later had different research assistants rate ( $n = 5$ ) the women and confirmed these informal results. The very attractive and unpleasant woman was rated as less intelligent on a ten-point scale ( $M=3.8$ ,  $sd=1.92$ ) than the attractive and pleasant woman ( $M=6.0$ ,  $sd=1.22$ ). Nevertheless, because I did not manipulate attractiveness *and* personality independently, it is possible that the personality characteristics of the possible partners drove the effects.

Future studies should attempt to rule out some of these possible alternative explanations. For example, perhaps researchers could include a condition in which the professor is said to be a blind man. That way, the professor could not discern the woman's (ostensible partner's) attractiveness, eliminating the participants' motivation for flaunting a woman's attractiveness (the professor can't judge it). If the interpretation I have favored is correct, men in the blind professor conditions should prefer the attractive and pleasant woman to the very attractive but unpleasant woman in *both* the high status and the low status condition. Other studies can ask men who they would flaunt and when and why. These would be self-report and would be subject to the traditional charges brought against self-report studies, but they would provide more information about the flaunting phenomenon. Whatever the future of this research, my studies, although suggestive, are beset by several problems that require future exploration.

Taken together, these two studies suggest that men and women use mates as social signals and also that observers treat them as such. Furthermore, Study 2 suggests that the mate quality bias explanation of mate flaunting is likely incomplete. The mate quality bias perspective strongly predicts that men (it is not so clear what this perspective predicts for women) should flaunt to other women, not to other men. The signaling perspective, on the other hand, predicts that men and women should flaunt to the sex that most ably confers status. There is increasing evidence that men competed fiercely with other men for access to women and that female choice

played a less powerful role in human evolutionary history than some previous researchers have surmised. Apostolou (2010), for example, noted parents often contributed significantly to a woman's mate choice, constraining her ability to freely choose a suitor. And Puts (2010) argued that men are physically dominant enough to coerce women, and that human evolution was dominated by male contest competition. Males battled each other, sometimes mortally, and the winners got to choose their preferred mates. If this line of thought is accurate, then men should flaunt more to other men than to other women because men act as gatekeepers of status. This might, of course, be a result of the contemporary power distribution in society. That is, men might possess more power and social status than women; therefore, they might be, in some sense, arbitrary gatekeepers. Or, it might be that men have powerful propensities to impress other men regardless of the concrete distribution of power and prestige in a society (for an example utilizing sports, see Lombardo, 2012). For present purposes, either explanation is plausible.

## Conclusion

We began this article with the example of the “most interesting man in the world.” He is often surrounded by attractive women, which seems to enhance his prestige. He is not anomalous. Many high status fictional characters are portrayed as commanding an inordinate amount of affection from the other sex. James Bond might be the most well known example. The current results and theory suggest that this technique of accenting prestige is little different from other customary techniques such as coupling the high status character with a fancy watch, an aged bottle of bourbon, or a sleek and expensive suit.



**APPENDIX A**

**TABLES AND FIGURES**

Table 1.

*Study 1: Descriptive and inferential statistics*

Scenario	DV	Attractive Mean (Sd)	Unattractive Mean (sd)	Test Statistic (df)	p value	Cohen's d
Steve CEO	Status	6.19 (0.89)	5.42 (1.29)	3.89 (119.3)	<.001	.69
	CEO quality	5.69 (1.02)	5.25 (1.01)	2.38 (121)	.019	.43
	Nice	4.93 (0.99)	5.01 (1.06)	-0.47(121)	.64	.08
	Intelligent	5.96 (0.95)	5.54 (0.99)	2.41 (121)	.018	.43
	Your boss	4.85 (1.11)	4.84 (1.34)	0.05 (121)	.96	.01
	Successful Company	5.72 (0.94)	5.28 (1.01)	2.51 (121)	.014	.45
Fred Politics	Status	5.63 (1.05)	4.95 (1.17)	3.39 (121)	.001	.61
	Smart	5.69 (1.08)	5.31 (1.0)	2.03 (121)	.045	.37
	Nice	4.95 (1.17)	4.68 (1.14)	1.32 (121)	.19	.23
	Vote for	4.59 (1.28)	4.37 (1.26)	0.96 (121)	.34	.17
	Senator Quality	5.02 (1.21)	4.73 (1.1)	1.37 (121)	.17	.25
John Professor	Status	5.33 (0.94)	4.94 (1.24)	1.94 (121)	.054	.35
	Professor Quality	5.28 (0.97)	5.54 (1.19)	-1.34 (121)	.19	.24
	Nice	4.84 (0.99)	4.91 (1.23)	-0.31 (121)	.76	.06
	Smart	6.03 (0.94)	6.06 (1.07)	-0.15 (121)	.88	.03
	Book Success	4.90 (1.09)	5.20 (1.29)	-1.40 (121)	.16	.25

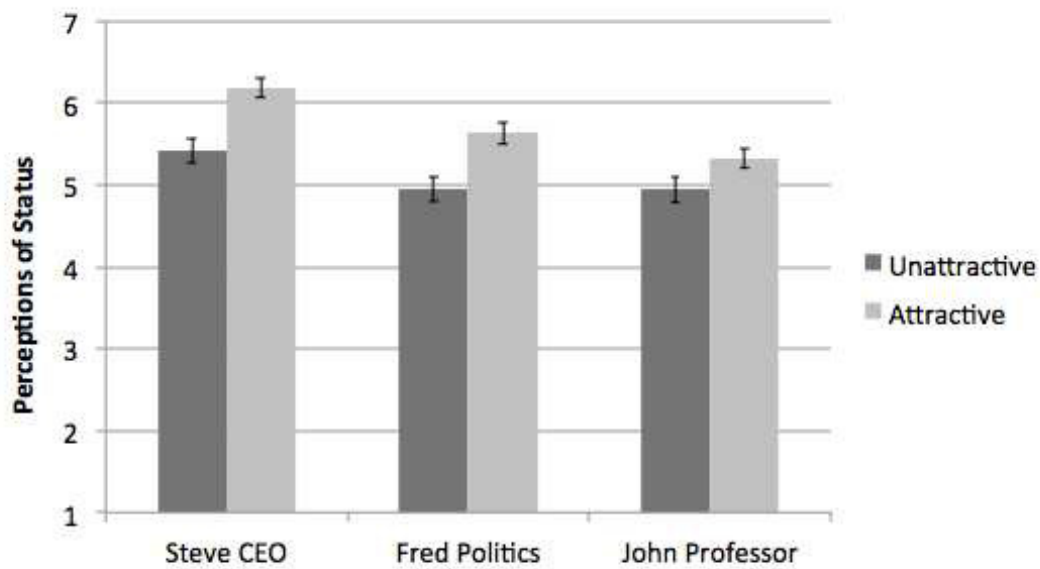


Figure 1. Study 1 Perceptions of target’s status as a function of the attractiveness of the target’s wife. Error bars reflect standard error.

Table 2.

Study 2: Rates of partner choice across condition

Condition	Nice Partner	Very Attractive Partner
Low Status	29/ 32 (90.6%)	3/ 32 (9.4%)
High Status	19/30 (63%)	11/30 (37%)

## APPENDIX B

### IRB APPROVAL MEMOS



Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 - FAX (850) 644-4392

#### APPROVAL MEMORANDUM

Date: 11/08/2014  
To: Bo Winegard [REDACTED]  
Address: 4301  
Dept.: PSYCHOLOGY DEPARTMENT  
From: Thomas L. Jacobson, Chair  
Re: Use of Human Subjects in Research  
Positional goods and mate flaunting

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 01/08/2014. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 01/07/2015 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing, any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Roy Baumeister <baumeister@psy.fsu.edu>, Advisor  
HSC No. 2013.11886



Office of the Vice President For Research  
Human Subjects Committee  
P. O. Box 3062742  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

RE-APPROVAL MEMORANDUM

Date: 12/11/2014

To: Bo Winegard, 

Address: 4301

Dept.: PSYCHOLOGY DEPARTMENT

From: Thomas L. Jacobson, Chair

Re: Re-approval of Use of Human subjects in Research:  
*Positional goods and mate flaunting*

Your request to continue the research project listed above involving human subjects has been approved by the Human Subjects Committee. If your project has not been completed by 12/09/2015, you are must request renewed approval by the Committee.

If you submitted a proposed consent form with your renewal request, the approved stamped consent form is attached to this re-approval notice. Only the stamped version of the consent form may be used in recruiting of research subjects. You are reminded that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report in writing, any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chairman of your department and/or your major professor are reminded of their responsibility for being informed concerning research projects involving human subjects in their department. They are advised to review the protocols as often as necessary to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

Cc:  
HSC No. 2014.14208

## APPENDIX C

### SAMPLE CONSENT FORM

#### CONSENT

## Dating Choices

**PROJECT BACKGROUND:** This study involves research. I understand that in this study I will provide answers to items on a series of questionnaires, I will provide demographic data, and I understand that these data may be published. I understand that it will be confidential, therefore it will not be possible to identify me in data, publication, or otherwise. This study is being directed by Bo Winegard under the supervision of Roy F. Baumeister, Department of Psychological Sciences, at Florida State University.

**PURPOSE:** The object of this study is to assess students' intellectual skills and potential for future status. Furthermore, students will answer questions about dating in an unrelated survey.

**VOLUNTARY:** I understand that this study is voluntary. I may refuse to answer any question(s), withdraw from participation, and/or request the exclusion of written materials at any time without any penalty or loss of benefits to which I would be otherwise entitled.

**WHAT DO YOU DO?** You will answer a questionnaire that will take 10 minutes. After this, you will fill out a demographics form that will require 10 minutes to complete. Last, you will complete a survey about dating choices that will take another 5 minutes to complete.

**DURATION:** This study should take 25 minute to 30 minutes to complete.

**BENEFITS:** There are no anticipated direct benefits of this study. However, the data collected may allow us to have better insight into human psychology. Minimally, it will contribute toward the process of science.

**RISKS:** There is a small risk of psychological discomfort or stress. If you experience any stress, you may voluntarily quit and still receive credit. You may also contact Bo Winegard, Roy Baumeister, or the Human Subjects office (see below).

**CONFIDENTIALITY:** My confidentiality will be maintained in that my name will not appear on the research package or in the published study itself. My answers will not be revealed to anyone other than the researchers conducting the study.

**CREDIT ALLOCATION:** When you have finished the components of this experiment, you are free to go. The researchers will award you 1 credit on the SONA system within a week's time.

**DATA STORAGE:** All collected data may be reported in (a) published article(s). However, your name or any identifiers that could link you to the data will only be known to the researchers. The data will be stored in a locked cabinet to ensure the confidentiality of your research participation.

Your efforts are greatly appreciated. If you have any questions regarding the study, please contact Roy F. Baumeister at (904) 224-2241. If you have questions regarding your rights as a participant in research, please feel free to contact the Human Subjects Office at (904) 224-2241. You may also contact the principal investigator Bo Winegard at (904) 224-2241.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## REFERENCES

- Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *The quarterly journal of economics*, *84*, 488-500.
- Apostolou, M. (2007). Sexual selection under parental choice: The role of parents in the evolution of human mating. *Evolution and Human Behavior*, *28*, 403-409.
- Anderson, C., & Kilduff, G.J. (2009). The pursuit of status in social groups. *Current Directions in Psychological Science*, *18*, 295-298.
- Baumeister, R.F., & Vohs, K.D. (2004). Sexual economics: Sex as females resource for social exchange in heterosexual interactions. *Personality and Social Psychology Review*, *8*, 339-363.
- Bird, R.B., & Smith, E.A. (2005). Signaling theory, strategic interaction, and symbolic capital. *Current Anthropology*, *46*, 222-248.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, *100*, 204-232.
- Buss, D.M., & Shackelford, T.K. (2008). Attractive women want it all: Good genes, economic investment, parenting proclivities, and emotional commitment. *Evolutionary Psychology*, *6*, 134-146.
- Carlsson, F., Johansson-Stenman, O., & Martinsson, P. (2007). Do you enjoy having more than others? Survey evidence of positional goods. *Economica*, *74*, 586-598.
- Cronk, L. (2005). The application of animal signaling theory to human phenomena: Some thoughts and clarifications. *Social Science Information*, *44*, 603-620.
- Dugatkin, L. A. (1992). Sexual selection and imitation: females copy the mate choice of others. *The American Naturalist*, *139*, 1384-1389.
- Dunn, M. J., & Searle, R. (2010). Effect of manipulated prestige-car ownership on both sex attractiveness ratings. *British Journal of Psychology*, *101*, 69-80.
- Eva, K. W., & Wood, T. J. (2006). Are all the taken men good? An indirect examination of mate-choice copying in humans. *Canadian Medical Association Journal*, *175*, 1573-1574.
- Frank, R. H. (1985). The demand for unobservable and other nonpositional goods. *The American Economic Review*, *75*, 101-116.

- Gallup Jr, G. G., & Frederick, D. A. (2010). The science of sex appeal: An evolutionary perspective. *Review of General Psychology, 14*, 240-250.
- Geary, D.C. (2010). *Male/female: The evolution of human sex differences* (2nd ed.). Washington, DC: American Psychological Association.
- Getty, T. (2006). Sexually selected signals are not similar to sports handicaps. *Trends in Ecology & Evolution, 21*, 83-88.
- Goodman, M. D., & Gareis, K. C. (1993). The influence of status on decisions to help. *The Journal of Social Psychology, 133*, 23-31.
- Gottfredson, L. S. (1997). Why g matters: The complexity of everyday life. *Intelligence, 24*, 79-132.
- Grikevicius, V., & Kenrick, D.T. (2013). Fundamental motives: How evolutionary needs influence consumer behavior. *Journal of Consumer Psychology, 23*, 372-386.
- Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and human behavior, 22*, 165-196.
- Hill, S. E., & Buss, D. M. (2008). The mere presence of opposite-sex others on judgments of sexual and romantic desirability: Opposite effects for men and women. *Personality and Social Psychology Bulletin, 34*, 635-647.
- Jiang, Y., Bolnick, D. I., & Kirkpatrick, M. (2013). Assortative Mating in Animals. *The American Naturalist, 181*, E125-E138.
- Krebs, J., & Davies, N. (1987). *An introduction to behavioral ecology*. (2nd. ed.). Oxford: Blackwell Scientific Publications.
- Lombardo, M. P. (2012). On the evolution of sport. *Evolutionary Psychology, 10*, 1-28.
- Lynn, R., & Mikk, J. (2007). National differences in intelligence and educational attainment. *Intelligence, 35*, 115-121.
- Maynard Smith, J., & Harper, D. (2003). *Animal signals*. New York: Oxford University Press.
- Miller, G. F. (2000). *The mating mind: How sexual choice shaped the evolution of human nature*. New York: Doubleday.
- Miller, G.F. (2010). *Spent: Sex, evolution, and consumer behavior*. New York: Penguin.
- Mook, D. G. (1983). In defense of external invalidity. *American psychologist, 38*, 379-387.

- Naumann, L. P., Vazire, S., Rentfrow, P. J., & Gosling, S. D. (2009). Personality judgments based on physical appearance. *Personality and Social Psychology Bulletin*, *35*, 161-167.
- Nelissen, R.M., & Meijers, M.H.C. (2011). Social benefits of luxury brands as costly signals of wealth and status. *Evolution and Human Behavior*, *32*, 343-355.
- Plourde, A. M. (2008). The origins of prestige goods as honest signals of skill and knowledge. *Human Nature*, *19*, 374-388.
- Pruett-Jones, S. (1992). Independent versus nonindependent mate choice: Do females copy each other? *The American Naturalist*, *140*, 1000-1009.
- Puts, D. A. (2010). Beauty and the beast: Mechanisms of sexual selection in humans. *Evolution and Human Behavior*, *31*, 157-175.
- Regan, P.C., & Dreyer, C.S. (1999). Lust? Love? Status? Young adults' motives for engaging in casual sex. *Journal of Psychology and Human Sexuality*, *11*, 1-24
- Russell, R. J., Wells, P. A., & Rushton, J. P. (1985). Evidence for genetic similarity detection in human marriage. *Ethology and Sociobiology*, *6*, 183-187.
- Schmidt, F. L., & Hunter, J. (2004). General mental ability in the world of work: occupational attainment and job performance. *Journal of Personality and Social Psychology*, *86*, 162-173.
- Searcy, W. A., & Nowicki, S. (2010). *The Evolution of Animal Communication: Reliability and deception in signaling systems*. Princeton, NJ: Princeton University Press.
- Sigall, H., & Landy, D. (1973). Radiating beauty: Effects of having a physically attractive partners on perception. *Journal of Personality and Social Psychology*, *28*, 218-224.
- Solomon, H., & Herman, L. (1977). Status symbols and prosocial behavior: The effect of the victim's car on helping. *The Journal of Psychology*, *97*, 271-273.
- Spence, M. (1973). Job market signaling. *The quarterly journal of Economics*, *87*, 355-374.
- Strane, K., & Watts, C. (1977). Females judged by attractiveness of partner. *Perceptual and Motor Skills*, *45*, 225-226.
- Sundie, J. M., Kenrick, D. T., Griskevicius, V., Tybur, J. M., Vohs, K. D., & Beal, D. J. (2011). Peacocks, Porsches, and Thorstein Veblen: conspicuous consumption as a sexual signaling system. *Journal of personality and social psychology*, *100*, 664-680.
- Symons, D. (1979). *The evolution of human sexuality*. New York: Oxford.



- Uller, T., & Johansson, L. C. (2003). Human mate choice and the wedding ring effect. *Human Nature, 14*, 267-276.
- United States Census Bureau. (2010). Median and average square feet of floor area in new single-family houses completed by location [data file]. Retrieved from <http://www.census.gov/const/C25Ann/sfotalmedavgsqft.pdf>.
- Vakirtzis, A., & Roberts, S.C. (2009). Mate choice copying and mate quality bias: different processes, different species. *Behavioral Ecology, 20*, 908-911.
- Vakirtzis, A., & Roberts, S. C. (2010). Nonindependent mate choice in monogamy. *Behavioral Ecology, 21*, 898-901.
- Veblen, T. (1994/1899). *The theory of the leisure class*. New York: Dover.
- Waynforth, D. (2007). Mate choice copying in humans. *Human Nature, 18*, 264-271.
- Winegard, B. (2014). *Mate flaunting*. Unpublished manuscript.
- Winegard, B., Winegard, B., & Geary, D.C. (2013). If you've got it, flaunt it: Humans flaunt attractive opposite-sex partner for status and desirability. *PloS ONE, 8*, e72000. Doi:10.1371/journal.pone.0072000.
- Winegard, B., Winegard, B., & Geary, D. C. (2014). Eastwood's brawn and Einstein's brain: An evolutionary account of dominance, prestige, and precarious manhood. *Review of General Psychology, 18*, 34-48.
- Winston, J. S., O'Doherty, J., Kilner, J. M., Perrett, D. I., & Dolan, R. J. (2007). Brain systems for assessing facial attractiveness. *Neuropsychologia, 45*, 195-206.
- Young, J. H., Nunes, J. C., & Dréze, X. (2010). Signaling status with luxury goods: The role of brand prominence. *Journal of Marketing, 74*, 15-30.
- Zahavi, A., & Zahavi, A. (1997). *The handicap principle: A missing piece of Darwin's puzzle*. Oxford, UK: Oxford University Press.

## **BIOGRAPHICAL SKETCH**

Bo Winegard is a fourth year PhD student in social psychology working with Dr. Roy F. Baumeister. Before attending Florida State University, Bo studied literature at multiple community colleges and then studied psychology at Grand Valley State University. Bo studies social selection and signaling. He is especially interested in the nature of male signaling systems and cultural displays.