



Effect of manipulated prestige-car ownership on both sex attractiveness ratings

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Previous studies have shown that male attractiveness can be enhanced by manipulation of status through, for example, the medium of costume. The present study experimentally manipulated status by seating the same target model (male and female matched for attractiveness) expressing identical facial expressions and posture in either a 'high status' (Silver Bentley Continental GT) or a 'neutral status' (Red Ford Fiesta ST) motor-car. A between-subjects design was used whereby the above photographic images were presented to male and female participants for attractiveness rating. Results showed that the male target model was rated as significantly more attractive on a rating scale of 1–10 when presented to female participants in the high compared to the neutral status context. Males were not influenced by status manipulation, as there was no significant difference between attractiveness ratings for the female seated in the high compared to the neutral condition. It would appear that despite a noticeable increase in female ownership of prestige/luxury cars over recent years males, unlike females remain oblivious to such cues in matters pertaining to opposite-sex attraction. These findings support the results of previous status enhancement of attractiveness studies especially those espousing sex differences in mate preferences are due to sex-specific adaptations.

Research and debate has over recent years benefited enormously from the dedicated input of psychologists well versed in evolutionary theory (e.g. Buss, 1989, 1992; Kenrick & Keefe, 1992; Saad, 2007; Symons, 1979; Townsend, 1989) and in structural models (e.g. Fletcher, Simpson, & Boyes, 2006; Fletcher, Simpson, Thomas, & Giles, 1999; Penke, Todd, Lenton, & Fasolo, 2007) in matters pertaining to sex differences in human mate preferences. The fruits of such labour have resulted in the identification of mate preferences if not specific to one sex then clearly emphasized to a greater degree in one sex compared to the other. It was Buss's seminal cross-cultural comparison of mate preferences that helped clarify that such universal proclivities did exist and encouraged researchers to focus on the adaptive function of possessing such

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preferences (Buss, 1989). In particular, males have been shown to focus more attentively and instantaneously on visual, physical attractiveness and for greater variety in their consideration of coitally acceptable potential partners whereas for females cues indicative of wealth and status assume a more pre-eminent position and appear to be more salient in such attractiveness-related decision-making processes than is the case for males (Aharon *et al.*, 2001; Buss, 1989; Hassebrauck, 1998; Shackelford, Schmitt, & Buss, 2005; Singh, 1993; Stewart, Stinnett, & Rosenfeld, 2000; Symons, 1979; Todd, Penke, Fasolo, & Lenton, 2007; Todosijević, Ljubinković, & Arančić, 2003; Townsend & Wasserman, 1998).

Buss (1989) also emphasized that for females, male wealth, and status cue information may come in an array of guises these being highly dependent on distinct cultural and environmental factors. For example, having good financial prospects and access to economic resources and higher social status may be measured in Western society in terms of bank accounts and car and house ownership, however, in traditional societies where such commodities are non-existent, females still show a clear preference for males who possess or who demonstrate the potential to acquire material resources peculiar to that society (see Betzig, 1986). In Western societies, the strong desire by females for such resources is evident from accessing personal advertisements placed in newspapers and magazines showing large differences in the importance placed on this characteristic in females compared to males (Greenlees & McGrew, 1994; Pawlowski & Koziel, 2002; Wiederman, 1993) and that physically attractive women (i.e. women who are in a position to obtain precisely what they want with regards to potential partners) do indeed tend to marry men of high occupational status (Andersson, 1994; Taylor & Glenn, 1976). The perception by males that their own status and spending prowess influences their attractiveness to females is shown by the fact that males tend to denigrate their rivals by disparaging the rival's professional prospects, such as mentioning that a rival is lazy, lacks ambition, or lacks clear goals in life (Buss, 2002), by displaying distress or jealousy towards more socially dominant rivals (Buss, Shackelford, Choe, Buunk, & Dijkstra, 2005; Park, Wiling, Bunnk, & Massar, 2008) and also in their willingness to spend on conspicuous luxuries in a mating context (Griskevicius *et al.*, 2007; Kruger, 2008; Saad, 2007). Females, however, appear inclined to denigrate other females' (potential rivals with regards to attracting mates) physical attractiveness (Buss, 2002) and manifest distress or jealousy towards physically attractive same-sex rivals (Buss *et al.*, 2005; Park *et al.*, 2008). What is also evident when tracking these preferences over modern historical time is the fact that despite the advent of the sexual revolution females still appear to value indices of wealth and status approximately twice as importantly as males (Buss, Shackelford, Kirkpatrick, & Larsen, 2001). Such preferences appear to remain robust even in females who themselves are in possession of high wealth and status thus precluding the explanation espoused by certain theorists that these preferences are only expedient superficial ones and not more deep-seated, evolved adaptations (Ardener, Ardener, & Warmington, 1960; Buss, 1989; Townsend, 1989; Wiederman & Allgeier, 1992).

What is undeniable is that over recent years, economic prosperity and consequently more equitable access to consumer items once perceived to be the exclusive domain of men has now extended to women (*Daily Mail*, 2005; Jones, 2002). Women today are clearly in a position to afford material and technological goods once regarded, at least secondarily after practical purposes, as wealth or status symbols. One such wealth and status symbol is ownership of a prestige or luxury sports car even though credit facilities

in modern western cultures permit purchase by individuals with more modest salaries. It would appear that sales in prestige motor vehicles are now more evenly distributed between males and females. For example, in a survey commissioned by Autoroyalty 50.61% of Volvo V70 owners and 61% of BMW Z4 owners were women (Autoroyalty, 2008). What remains speculative is the precise motivation for this contemporaneous tendency in women to obtain prestige or luxury motorcars. Presumably, women like men purchase such cars in the belief that they may either improve their own social position in comparison to other females (intra-sexual competition) or that by elevating their status they similarly enhance their attractiveness to members of the opposite sex (Etcoff, 1999; Symons, 1979) or a combination of the two. Motivational factors aside the objective of the current study was to explore empirically whether perceived ownership of or at least association with, a high status car influences women's attractiveness to the same degree that it does in men.

Attractiveness enhancing effects of cues indicative of wealth and status have previously been found by manipulating, for example, costume or clothing (see Hickling, Noel, & Yutzler, 1979; Hill, Nocks, & Gardner, 1987; Townsend & Levy, 1990a,b). In this current study, male and female participants were asked to rate the attractiveness of the same photographically presented opposite-sex target model (male and female target matched for attractiveness) either seated in a prestige/luxury (high status) or a standard (non-high or neutral status) motor-car. Other cues that may have potentially enhanced attractiveness judgments were scrupulously omitted, for example both models were dressed casually and no other property cues were present. Although previous studies have shown an enhanced male attractiveness effect due to manipulated high-status clothing, the current wealth, and status cue (prestige-car ownership) is arguably more salient due to the fact that obtaining such a commodity is, unlike ownership of a smart suit, beyond the range of all but the wealthiest individuals in society and, therefore, can be a more reliable or honest indicator of status. It has been argued that with regards to expensive motorcars 'you wear your status on the road' (Barth, 2007) and with the possible exception of a house or a boat nothing better epitomizes social status or an assumption of lofty financial circumstance. According to the car insurance company *esure*, a 2008 nationwide survey of male and female car owners found that around 90% of drivers sampled perceived cars as being important status symbols. Similarly, male prestige-car owners from Yorkshire to the East of England were shown to display keenness in wanting others to see their cars as a reflection of their own success (*PA Business*, 2008).

Also, asking participants to rate either live or photographic images of target models for attractiveness is arguably superior to using verbal descriptions using somewhat vague or abstract concepts as visually presented, opposite-sex, mate relevant cues clarify, or disambiguate the research question directed at participants (see Hassebrauck, 1998; Townsend, 1993). In order to support previous findings showing that women focus more on traits which they perceive as being reflective of a man's wealth and status, it is predicted that attractiveness ratings will be significantly higher in the experimentally manipulated prestige-car ownership condition compared to the neutral condition (perceived ownership of a neutral car). Conversely, despite the dramatic increase in prestige motor-car ownership by females over recent years it is predicted that males will not be influenced by experimental manipulation of status due possibly to their evolved pre-occupation with physical cues and disinterest in female status enhancement and will rate the target model similarly in the high and the neutral status condition.

Method

Participants

For the experimental groups (total $N = 240$), participants of whose ages ranged from 21 to 40 were recruited from Cardiff city centre in Wales. The sample consisted of males and females divided equally into sex ($N = 120$). Additionally, 150 (N) undergraduate students from University of Wales Institute, Cardiff; (75 males/75 females) were used in a preliminary rating exercise to rate three potential opposite-sex targets of which one of each sex (matched for attractiveness) were selected for use in the main study. A further 100 (N) participants (separate local city centre cohort) were used to rate the aesthetic attractiveness of the cars alone ($N = 25$ per condition male/female either high status or neutral status car). Finally, to confirm that the cars selected were representative of the classification 'high' and 'neutral' status a random selection of new males and females ($N = 20$) were explicitly asked to estimate the purchase prices of the aforementioned cars from the photographs used in the main study. Inclusion criteria required prospective participants to be willing to take part via verbal consent and they were informed of their right to withdraw from the study at any time if they so desired. Males and females below the age of 21 and above the age of 40 were excluded from taking part in the study.

Design

A between-subjects factorial design was used independent variables being sex (male/female) and status (high status motor-car/neutral status motor-car). The dependent variable was the attractiveness rating of the opposite-sex target model on a scale of 1 (highly unattractive) to 10 (highly attractive).

Materials

Photographs of prospective target models and both high (i.e. prestige) and neutral status cars were taken with a digital camera (Nikon Coolpix 5200). The target models were chosen from a previous rating exercise, rated for attractiveness at approximately mid-point (5) on a scale of 1-10 in order to preclude ceiling effects. The female and male target models were both 23 years old. A rating form was also provided for participants that contained a brief sentence instructing them to rate the opposite-sex model for attractiveness and space provided to include sexual orientation. The neutral facial expressions adopted by each target as appeared in the photographs were the same in both the high and neutral status conditions as were lighting conditions, camera-to-target distances and clothing (casual as opposed to status enhancing in order to preclude this potential confound on attractiveness ratings). The position of the targets in the photographs was also manipulated to maximally create the illusion of ownership (e.g. relaxed posture in driving seat). Although not explicitly stated, as the physiques of the target models were masked by their seated position the participants were essentially rating the models on facial attractiveness. 'High' (Silver Bentley Continental GT) and 'neutral' (Red Ford Fiesta ST) status motorcars were used to manipulate status with both motorcars being 2005 models. Both these cars were chosen because the net value difference between the cars was deemed large enough to clearly warrant a difference in status classification. More importantly, Bentley Continental GT's retail from between £60-90,000 and as the model used in the current study was a new model then the purchase price would be nearer the top end. It was decided that the term 'neutral'

would be used to describe the Red Ford Fiesta ST as opposed to 'low' status as such cars can be owned by individuals not necessarily restricted to low socio-economic classes (see Figure 1). The photos presented to participants for the purposes of establishing both sex aesthetic appreciation of and awareness of the monetary value of each motor-car were identical to those presented to participants in the main target attractiveness study with the exception that the male and female targets were removed from the photographic frame.

Procedure

Data were collected over a 4-week period. Prospective participants were approached in communal areas of a local city centre in Cardiff, South Wales. The numbers of people situated in that area during a busy shopping period allowed for a diverse array of demographic backgrounds and age. Respondents were approached and individually invited to take part, those who wished to do so were quasi-randomly issued with a photograph of either the Red Ford Fiesta ST or Silver Bentley Continental GT alone (for aesthetic appreciation ratings and purchase price estimates) or for the main experiment a target model of the opposite sex pictured sitting in the drivers seat in either the 'neutral' (Red Ford Fiesta ST) or a 'high status' motor-car (Silver Bentley Continental

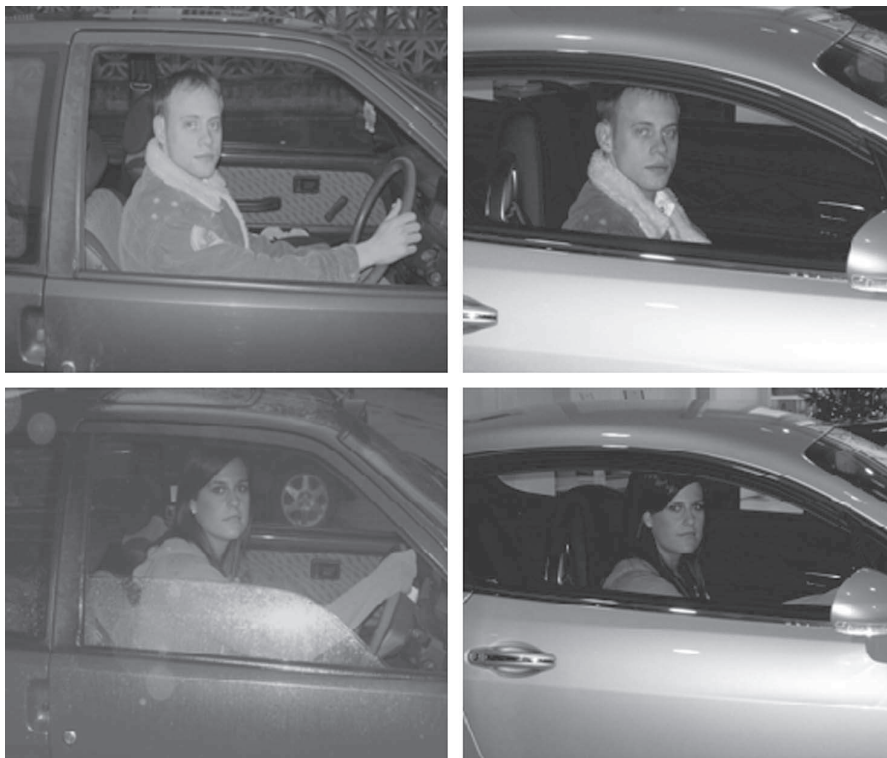


Figure 1. Image pairs of female and male target models as presented to participants. One image of each pair was taken in a neutral (left) and the other in a high (right) status context (Red Ford Fiesta ST and Silver Bentley Continental GT, respectively).

GT), and were asked to state how attractive they perceived the model to be on a scale from 1 (highly unattractive) to 10 (highly attractive) in addition to their own current age. These instructions were standardized for both sexes. Participants were instructed by the experimenters to carefully follow the instructions (these being verbally clarified by the experimenter) one of these being to arrive at their rating of attractiveness within 1 min of being presented by the photographic images. Provision was also made for participants to provide details of their sexual orientation and only those who indicated heterosexual were included in the final analysis of data. Also, participants attention was not in any way drawn to the motorcars present in the photograph they were asked simply the rate the target model for attractiveness.

Method of analysis

All data were analysed using 'SPSS 12.0' on a 'Viglen' PC with the 'Windows 2000' application. Two-way between subjects ANOVA's with simple main effects analyses were conducted on the data. Results were taken to be significant at the $p < .01$ level.

Results

Matching target models

Before analysis of the main experiment could commence, both the male and female target models used in the main experiment were matched for attractiveness (prior rating exercise). An independent t test revealed that there were no significant differences between the male and female targets ($t = 0.931$, $df = 148$, $p > .05$) thus any sex differences pertaining to attractiveness evident in the main experiment could be reliably attributed to the experimental enhancement of status.

Motorcar aesthetic attractiveness rating and purchase price estimates

In order to ensure that any significant difference in the attractiveness of the target models was not due to simple sex differences in aesthetic attractiveness ratings of the two vehicles a silver Bentley Continental GT and a Red Ford Fiesta ST were assessed for aesthetic attractiveness alone (independent samples). It was made clear to participants precisely what aesthetic attractiveness referred to (i.e. how pleasing to the eye do the cars appear) in the event of individual participants not being familiar with this particular term. The results from this preliminary study are shown below (see Figure 2). It was also shown that without exception respondents (separate cohort) gave estimates of in excess of £50,000 for the Bentley and no estimate exceeded £2000 for the Ford Fiesta. This clearly shows that both sexes are cognizant of the value of such cars (data not shown).

Data were analysed using a two-way between subject ANOVA with a between subject factor of car (Fiesta and Bentley) and a between subject factor of sex (female and male). Analysis revealed no main effect of sex [$F(1, 56) = 1.3$, $p > .05$, partial $\eta^2 = .001$], a main effect of car status [$F(1, 56) = 276.5$, $p < .01$, partial $\eta^2 = .49$], and importantly no significant car \times sex interaction [$F(1, 56) = 0.1$, $p > .05$, partial $\eta^2 = .001$]. Thus male and females rated the Bentley car (high status) as more aesthetically pleasing than the Ford Fiesta (neutral status) and there was no significant difference between the ratings of each individual car within male and female rating scores.

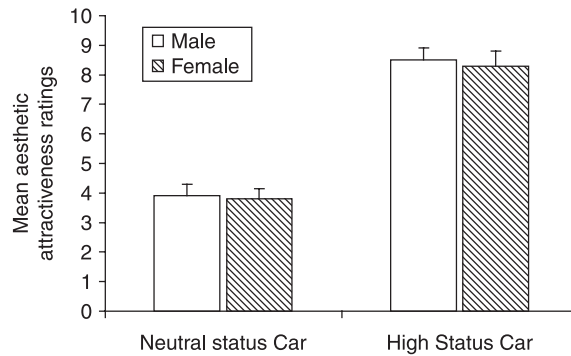


Figure 2. Both-sex aesthetic attractiveness ratings of neutral and high status cars. Aesthetic attractiveness ratings were given to a Silver Bentley Continental GT and a Red Ford Fiesta ST. No differences were evident between males and females for aesthetic attractiveness for each individual car. Both sexes demonstrated significantly higher aesthetic attractiveness ratings for the high compared to the neutral status car. Values = mean \pm SEM.

Effect of status enhancement on opposite-sex attractiveness ratings

The main study shows that females rated the male target model significantly higher in the high status context compared to the neutral status context whereas males showed no difference in attractiveness ratings between the conditions (see Figure 3).

The main study data were analysed using a 2×2 , between subjects ANOVA with a between-subject factor of sex (female/male) and a between subjects factor of status (high and neutral). Analysis revealed a significant main effect of sex [$F(1, 236) = 30.8, p < .01, \text{partial } \eta^2 = .16$], status [$F(1, 236) = 7.5, p < .01, \text{partial } \eta^2 = .03$], and sex \times status interaction [$F(1, 236) = 13.3, p < .01, \text{partial } \eta^2 = .11$]. A subsequent

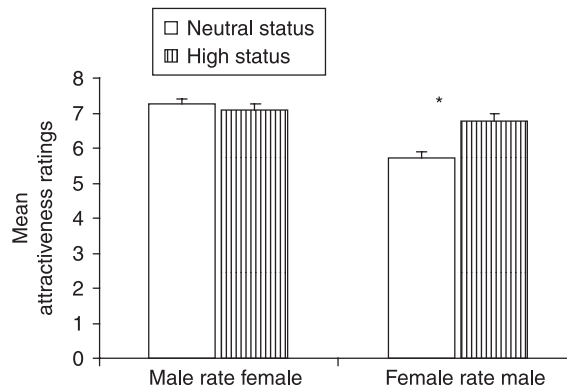


Figure 3. Effect of manipulated prestige car ownership on both sex attractiveness ratings. Opposite-sex attractiveness ratings were given to male and female target models presented to participants either seated in a neutral or high status (prestige) motorcar. Females rated the male target model significantly higher when seated in a high status car compared to the same male seated in a neutral status car ($p < .01$). No differences were evident between male ratings of the female positioned in the high and neutral status context ($p > .05$). Values = mean \pm SEM. * Denotes significant difference between high and neutral status conditions ($p < .01$).

simple main effect analysis revealed no significant difference between the high-status and the neutral status female target model condition by male participants in their attractiveness ratings ($F < 1$, partial $\eta^2 = .008$), however, females rated the male target model significantly more attractive when the male target was seated in the high status, compared to the neutral status motor-car [$F(1, 236) = 42.3$, $p < .01$, partial $\eta^2 = .15$]. Additional simple main effect analysis showed significantly higher ratings for the males rating the female compared to the females rating the male in the neutral status context [$F(1, 236) = 42.3$, $p < .01$, partial $\eta^2 = .08$] but no sex differences in opposite-sex ratings were observed for targets seated in the high status context [$F(1, 236) = 1.8$, $p > .05$, partial $\eta^2 = .002$].

Discussion

The results show that unlike in the case of female attractiveness, male attractiveness can be enhanced experimentally by manipulating status. In this case, status was manipulated through the implementation of photographic images that depicted target models matched for attractiveness seated either in a 'high status' (Silver Bentley Continental GT) or 'neutral status' (Red Ford Fiesta ST) motor-car. The male target model was rated as significantly more attractive by females despite being captured photographically in the same clothing and expressing the same facial expressions in both cars. Males were not in any way influenced by the status manipulation in their rating of the female's attractiveness (again same clothing and facial expressions were maintained) as evidenced by similar attractiveness ratings between high and neutral status conditions. Moreover, these sex differences were clearly a result of the perceived attractiveness of the target model in a specific context and not the motor-car *per se* (as there were no differences in the aesthetic attractiveness ratings of the high status car between females and males) or the attractiveness of the target models as both had previously been matched for attractiveness.

It would appear that even though recent years have witnessed dramatic increases in female ownership of prestige or luxury cars, such ownership does not enhance female attractiveness, as is the case with male attractiveness. Confidence in this conclusion is justifiably high, however, the results do show a main effect of sex (i.e. higher overall ratings for males rating the female target compared to females rating the male target). This contradicts the earlier preliminary study, which revealed that the female and male target models were matched for attractiveness. This can feasibly be explained by the fact that different samples were used in the earlier attractiveness-matching prerequisite exercise and the main study. A student population was used to match potential targets for attractiveness whereas participants in the main study were recruited from a busy city centre, arguably encompassing a broader range of socio-economic classes and clearly a wider age range. Also, it would appear that traditionally women often appear to give lower or more conservative judgment scores pertaining to attractiveness than males (Gladue & Delaney, 1990; Reis, Nezelek, & Wheeler, 1980).

What must be emphasized is the subtlety of the cues used to manipulate high status in the current study. The photographs used only contained a single highly minimalist cue relating to wealth and status (i.e. the motor-car). Moreover, as participant's attention was not explicitly drawn to the car it could be argued that the processing of high status stimuli by females may occur at an unconscious level. Future studies will adopt eye-tracker type methodologies to determine precisely what the sexes focus on when

making judgments of attractiveness in the presence of sex relevant contextual cues or possibly explore qualitatively what factors both sexes consider when arriving at decisions in such contexts. The fact that males appeared uninfluenced by the high status contextual cue (the female was rated similarly for attractiveness in both conditions) suggests that men do indeed focus if not exclusively on physical attraction then at the very least they discount information that women clearly take account of. Grammer (1989), in a review of the extensive social sciences literature on mate choice preferences elicited by interview and questionnaire, found that men typically consider only a single cue (attractiveness) while women consider as many as a dozen different traits, including both social and economic qualities. It has been concluded that although males are not repelled by female social dominance and high status such traits may be irrelevant as mate selection criteria (Sadalla, Kenrick, & Vershure, 1987; Townsend, 1998). Hassebrauk (1998) using a visual process method found that men do pay more attention to a potential mates physical appearance, in particular features indicative of youthfulness and fertility than women and needed less time to determine whether or not they regarded a potential mate as physically attractive. Although not quantified, male participants in the current study did almost unanimously appear to arrive at their attractiveness rating before females. Other supportive evidence highlighting the centrality of physical attractiveness to males was shown by Aharon *et al.* (2001), using a fMRI neuroimaging procedure. They found that the nucleus accumbens becomes especially activated in males upon exposure to attractive but not to average female faces or other male faces. Recently, however, Maner, Gailliot, and DeWall (2007) using a visual cueing task found that both sexes attention was biased towards attractive women but not attractive men and that this bias was more marked in non-romantically involved men and in women who felt less secure in their current relationship.

Prior to the current study, other photographically presented sex-salient cues have been shown to influence male attractiveness to females. For example, La Cerra (1994) found that females but not males rated the same opposite sex target as more attractive when targets were shown to interact more positively with an infant than when they were depicted ignoring the same child crying. It could be postulated that females are influenced by such behaviours as a 'willingness to invest' by males as it is a cue that was highly adaptive for females to be sensitive to (Buss, 1989) as is sensitivity to status. Also, recent findings have elucidated another important factor used by females in the evaluation of male attractiveness this being other female's perceived attractiveness of a given male. For example, Graziano, Jensen-Campbell, Shebilske, and Lundgren (1993) showed that in judging male attractiveness females appear to be influenced by experimentally manipulated negative ratings given by fictional females. However, more recently, Jones, DeBruine, Little, Burriss, and Fienberg (2007) found that female participants rated a male target as more attractive if they themselves had observed another female smiling at the target and that this 'social transmission effect' persisted after the smiling confederate was no longer present. Future studies will explore the possibility that male targets seated in a 'high status' motor-car will likewise retain their enhanced attractiveness without this stimuli's continued presence.

In conclusion it would appear that male but not female attractiveness can indeed be enhanced by photographically presenting opposite-sex target models seated within a prestige or luxury motor-car. These findings are broadly supportive of earlier research demonstrating that cues that are purported to be more salient in the consideration of a potential partner in one sex compared to another can be manipulated experimentally,

and that this manipulation is perhaps more efficaciously achieved by presenting such cues visually. However, as is the case with all self-reported preferences (naturalistic stimuli, verbal descriptions, or isolated cues) it would be unwise to assume that such stated preferences invariably reflect mate choices in the real world (see Eastwick & Finkel, 2008; Todd *et al.*, 2007).

Despite a noticeable increase in the purchase and ownership of prestige motorcars by females, the results of this study suggest that any impression that may be made by female ownership of prestige motorcars by males may be restricted more to a 'non-sexual attractiveness' appreciation. Also, the results contradict the 'structural powerlessness' hypothesis, i.e. the belief that as economic differences diminish men and women will become more alike, as the rise in female economic fortune has not, it would appear, emancipated them from attraction to cues that are indices of wealth and status in males. Future studies using a similar methodology employed in the current study will also explore the potential attractiveness enhancing effects of manipulated prestige-car ownership on target models of different ages to determine if for example the attractiveness-diminishing effects of age can be attenuated by high status manipulation and to explore potential differences in wealth and status cue manipulation on attractiveness ratings across socio-economic classes. Finally, limitations of the current study may be that the focus has been exclusively directed at male as opposed to female attractiveness enhancing contextual cues. As males appear to de-emphasize, if not totally ignore non-physical attraction attributes when making attractiveness judgments (see Grammer, 1989) then future studies that attempt to enhance female attractiveness, for example manipulation of clothing to enhance waist-to-hip ratio could be undertaken. Also, an examination of same-sex judgments of attractiveness using the current methodology should be employed to unequivocally discount the possibility that the results of this study are simply reflective of a sex difference in the effects of public information on mate preferences as opposed to arguably more fundamental sex differences in the processing of sex-relevant adaptive cues.

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