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The Putative Son's Attractiveness Alters the Perceived Attractiveness of the Putative Father

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Abstract A body of literature has investigated female mate choice in the pre-mating context (pre-mating sexual selection). Humans, however, are long-living mammals forming pair-bonds which sequentially produce offspring. Post-mating evaluations of a partner's attractiveness may thus significantly influence the reproductive success of men and women. I tested herein the theory that the attractiveness of putative sons provides extra information about the genetic quality of fathers, thereby influencing fathers' attractiveness across three studies. As predicted, facially attractive boys were more frequently attributed to attractive putative fathers and vice versa (Study 1). Furthermore, priming with an attractive putative son increased the attractiveness of the putative father with the reverse being true for unattractive putative sons. When putative fathers were presented as stepfathers, the effect of the boy's attractiveness on the stepfather's attractiveness was lower and less consistent (Study 2). This suggests that the presence of an attractive boy has the strongest effect on the perceived attractiveness of putative fathers rather than on non-fathers. The generalized effect of priming with beautiful non-human objects also exists, but its effect is much weaker compared with the effects of putative biological sons (Study 3). Overall, this study highlighted the importance of post-mating sexual selection in humans and suggests that the heritable attractive traits of men are also evaluated by females after mating and/or may be used by females in mate poaching.

Keywords Mate choice · Physical attractiveness · Priming · Post-mating sexual selection

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Introduction

Darwin (1859) proposed that several, often bizarre, traits, such as a peacock's tail or a stag's antlers, may actually impair survival, but they are also attractive to members of the opposite sex. Physical attractiveness increases the likelihood of successful mating and, thus, these bizarre traits increase the reproductive fitness of their bearers. Although the mechanisms of sexual selection have been discussed (Andersson, 1994; Johnstone, 1995), the origin of sexually attractive traits is still unclear (Andersson & Simmons, 2006; Kokko, Jennions, & Brooks, 2006; Kokko & Monaghan, 2001; Puts, 2010). There is, however, general agreement that females in species with reproductive biology and ecology similar to humans, invest in reproduction more than males (Trivers, 1972). As a consequence, females have greater opportunity costs for poor mate choice (Kokko, Brooks, Jennions, & Morley, 2003), and, consequently females are the choosier sex (i.e., females can produce a much lower number of offspring), since mating with a low quality male can result in the production of genetically inferior offspring (Andersson, 1994; Bleu, Bessa-Gomes, & Laloi, 2012; Johnstone, Reynolds, & Deutsch, 1996; Kokko & Monagan, 2001).

Similar to other mammals, women invest more heavily in parenting and are choosier in their selection of dating or sexual partners than men (Buss, 1994; Geary, Vigil, & Byrd-Craven, 2004; Kenrick, Sadalla, Groth, & Trost, 1990). The preference for attractive male traits is believed to be associated with the selection of "good genes" (Gangestad & Simpson, 2000; Roberts & Little, 2008). Women, for example, show preferences for symmetry (Gangestad & Thornhill, 1997; Grammer & Thornhill, 1994; Little & Jones, 2006; Penton-Voak et al., 2001) and masculinity (DeBruine et al., 2006; Grammer & Thornhill, 1994; Johnston, Hagel, Franklin, Fink, & Grammer, 2001; see, however, Penton-Voak & Perrett, 2000; Penton-Voak et al., 1999) in men's faces, which are cues of good genes that may confer

disease resistance and other genetic benefits to their offspring (Buss & Shackelford, 1997; Jones et al., 2004; Lie, Rhodes, & Simmons, 2008; Rantala et al., 2013; Rhodes, Chan, Zebrowitz, & Simmons, 2003; Thornhill & Gangestad, 2006; see, however, Scott, Clark, Boothroyd, & Penton-Voak, 2013; Weeden & Sabini, 2005 for a discussion). A preference for attractive traits in men can, therefore, be accompanied by the expectation that these traits will be inherited by their offspring, because human preferences for attractiveness are heritable (Cornwell & Perrett, 2008; Zietsch, Verweij, & Burri, 2012). In order to test this, I hypothesized that facially attractive offspring should be attributed to an attractive putative father more than to unattractive putative fathers (Study 1).

Although the studies reviewed thus far have predominantly investigated mate choice within the context of pre-mating sexual selection, females in socially monogamous non-human species may continue to evaluate male quality after mating (post-mating sexual selection) (see, e.g., Soler, Møller, & Soler, 1998). Female magpies and barn swallows, for example, adjust clutch size according to the male's parental quality or their willingness to invest in reproduction (Soler, Cuervo, Møller, & de Lope, 1998; Soler, de Neve, Martinez, & Soler, 2001). Humans are long-living polygamous or monogamous mammals (Marlowe, 2000; Marlowe & Berbesque, 2012), and women prefer men who demonstrate a willingness to invest in children as marriage partners (Brase, 2006; La Cerra, 1995; Roney, Hanson, Durante, & Maestripieri, 2006). About half of human marriages are voluntarily disrupted (divorced or permanently separated) (Amato, 2010). Interbirth intervals (about 3 years in natural fertility population) (see Galdikas & Wood, 1990) are long enough for realizing post-mating decisions for remaining in or disrupting cohabitation or marriage. It may be functional for mothers to assess their own child's attractiveness since there could be incompatibilities between their genes and the father's genes. Sons' attractiveness may therefore provide extra information about the father's genes. The facial attractiveness of an offspring may be an indicator of male genetic quality. Higher divorce rates among couples with genetically inferior offspring indirectly support this idea (Corman & Kaestner, 1992; Mauldon, 1992; Reichman, Corman, & Noonan, 2004; Swaminathan, Alexander, & Boulet, 2006).

The human tendency toward cyclical marriages, divorces, and remarriages (Fisher, 1987) provides further reproductive opportunities to attract someone who is already in a romantic relationship (mate poaching) in order to choose the most valuable mates (Schmitt & Buss, 2001). This opens the possibility to search for a genetically superior mate with whom further offspring can be sired. Indeed, patterns of mate poaching are universal across the world, including traditional societies (Schmitt & Buss, 2001; Schmitt et al., 2004). Schmitt and Buss determined that approximately 85 % of women reported someone having, at some time, attempted to poach their partner as a short-term mate, and 43 % of men reported someone having successfully poached them for a new exclusive relationship. Physical attractiveness was found to be the most important predictor of how many times a man will be involved in an extra-marital relationship (Gangestad & Thornhill, 1997; Rhodes et al., 2005), highlighting the market value of physically attractive men in the mating behavior.

Evolved psychological processes can be activated by the short-term induction of motivational states (e.g., Fiedler, Bluemke, & Unkelbach, 2011; Mortensen, Vaughn Becker, Ackerman, Neuberg, & Kenrick, 2010; Park, Schaller, & Crandall, 2007; Pavey & Sparks, 2012). Women primed with a pathogen threat revealed greater preferences for traits indicative of genetic quality (Lee & Zietsch, 2011; Little, DeBruine, & Jones, 2011; Watkins, DeBruine, Little, Feinberg, & Jones, 2012). In contrast, exposure to cues of harsh ecological conditions lead to a preference for high investment partners (Little, Cohen, Jones, & Belsky, 2007). Exposure to the parenting prime resulted in stronger female mate preferences for social dominance (Millar & Ostlund, 2006), which indicates a partner's ability to compete for and control those limited resources that would provide their offspring with a competitive advantage. In most research, however, the exposure to mating scenarios showed significant effects on men, but not on women (e.g., Chang, Lu, Li, & Li, 2011; Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Roney, 2003). I consequently tested the idea that offspring attractiveness provides extra information about the genetic quality of the father. If this is the case, the presence of an attractive son should influence the perception of attractiveness of the son's father. Study 2 examined this hypothesis by an experimental manipulation of the facial attractiveness of the putative sons (used as primes) and its effects on the perceived facial attractiveness of their putative fathers. Moreover, this study also manipulated men's biological relatedness with putative sons. A further study was designed to control for potential unspecified effects of priming with beautiful non-human objects (Study 3), which may enhance the male's attractiveness.

Study 1

Study 1 examined the hypothesis that attractive boys should be attributed to attractive putative fathers, and unattractive boys should be attributed to unattractive putative fathers. In other words, this study experimentally examined whether men's attractiveness mediated the participant's estimate of a putative son.

Method

Participants

A total of 126 females with a mean age of 28.3 years (SD = 8.18) participated in the study. All the students attended the University of Trnava and none of them participated in Study 2 or 3.

Measures

Selection of the Father's Picture Stimuli

The stimuli were 10 faces that were rated most attractive and 10 faces rated least attractive out of a group of 80 male faces of Caucasian origin between the ages of 22 and 30 years. A total of 59 of these facial stimuli were obtained from the publicly available Center for Vital Longevity database (Minear & Park, 2004). An additional 21 Caucasian faces between the ages of 23 and 30 years of age were gathered through accessible social networks in order to increase the total number of facial stimuli. To identify the most and least attractive faces from this sample, all 80 male faces were rated by 28 Caucasian women between the ages of 18 and 23 years ($M = 21.9$, SD = 1.40) who did not participate in further research. The images were rated for attractiveness on a scale of 1 (low) to 7 (high). The mean attractiveness rating of the 10 least attractive faces was 1.26 (SD = 0.11) and 4.97 (SD = 0.39) for the 10 most attractive faces. There was no kin relationship with the father's picture stimuli and the boy's picture stimuli described below.

Selection of the Boy's Picture Stimuli

The stimuli were 20 faces that were rated most attractive and 20 faces rated least attractive out of a group of 118 Caucasian boys between the ages of 4 and 5 years obtained from volunteer students of the University of Trnava who did not participate in the ratings of faces. To identify the most and least attractive faces from this sample, all 118 boys faces were rated by 71 women between the ages of 20 and 24 years ($M = 21.2$, SD = 1.06). The images were rated for attractiveness on a scale of 1 (low) to 7 (high). The mean attractiveness rating of the 20 least attractive faces was 2.30 (SD = 0.28) and 5.49 (SD = 0.42) for the 20 most attractive faces.

Procedure

The ten most attractive men and ten least attractive men selected from a group of 80 Caucasian male faces between the ages of 22 and 30 years were chosen for this study. In each trial, ostensible fathers were always presented in the center of a PowerPoint slide with one boy on the left and one boy on the right. The presentation side of children (attractive and unattractive) was randomized. No faces were shown in more than one trial. The trials of the two treatments were presented in random order. The pictures of the putative fathers and boys were presented to the groups of participants. In Treatment 1, one attractive man with one attractive and one unattractive boy ($n = 10$ trials) was presented. In Treatment 2, one unattractive man with one attractive and one unattractive boy ($n = 10$ trials) was presented. Participants were instructed to choose, in a forced-choice trial, which of the two boys was the son of the man. The proportion of attractive children chosen was calculated for each participant by taking the number of attractive children selected from pairs and multiplied by 100 in order to provide a percentage value. The Kolmogorov–Smirnov test suggested that women's preference scores were not normally distributed (both $p < .01$); thus, the non-parametric Wilcoxon matched-pairs test was appropriate. The effect sizes were calculated with Cohen's d (Cohen, 1988).

Results

Participants attributed attractive boys to attractive men more frequently than to unattractive men (Wilcoxon matched-pairs test, $Z = 5.45$, $p < .001$, $d = 0.74$; see Fig. 1). Unattractive boys were attributed significantly more often to unattractive men than to attractive men ($Z = 6.71$, $p < .001$, $d = 0.74$). This would suggest that women seem to have a conscious belief that more attractive men tend to have more attractive sons.

Study 2

In Study 2, I experimentally examined the effect of boy's attractiveness on the putative father's attractiveness. Furthermore, biological relatedness of putative fathers was manipulated in order to test whether boy's facial attractiveness influences only putative biological fathers, but not non-biological fathers.

Method

Participants

A total of 260 undergraduate women with a mean age of 20.02 years (SD = 1.94) participated for extra course credit. All the students attended the University of Trnava or St. Elisabeth

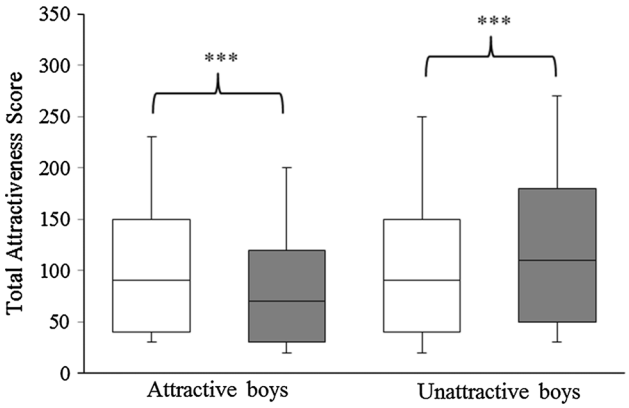

Fig. 1 The attribution of attractive boys to attractive (*open boxes*) and unattractive (*grey boxes*) putative fathers. *Box plots* represent medians, 25th and 75th percentiles, minimum and maximum values. The *asterisks* (***) denote statistically significant differences ($p < .001$) based on the Wilcoxon matched-pairs test

University. The women were randomly assigned to two treatments: Biological father (BF) treatment ($n = 184$) and Stepfather treatment (SF) ($n = 76$). Participants within in each treatment were divided to subgroups (Group A and Group B, $n = 92$ participants per each group in BF; Group C and Group D, $n = 38$ participants per each group in SF treatment).

Measures

Selection of the Father's Picture Stimuli

The stimuli were the 20 faces that were rated the most attractive and the 20 faces rated least attractive from a group of 80 Caucasian male faces described in Study 1. The mean attractiveness rating of the 20 least attractive faces was 1.43 (SD = 0.22) and 4.53 (SD = 0.55) for the 20 most attractive faces.

Selection of the Boy's Picture Stimuli

The stimuli were the same 20 faces that were rated the most attractive and the 20 faces rated least attractive described in Study 1.

Procedure

On arrival for the experiment, the participants were informed that the experiment was on first impressions of the opposite sex and the perceived attractiveness of putative sons in the pictures. The participants were told that the man in each picture was the biological father of the boy in the picture (the BF treatment, $n = 184$ participants) or a stepfather (the SF treatment, $n = 76$ participants). There was not, of course, any genetic relationship between the putative fathers and the boys presented in the pictures. Both the putative father and the boy were presented simultaneously on one PowerPoint slide (Fig. 2). No faces were shown in more than one trial. Color pictures of the putative fathers and boys were presented to groups of participants. The participants were instructed to look at the pictures for 7 s. Half of the attractive putative fathers ($n = 10$ pictures) were presented with the attractive boys in Group A and C, and the same fathers were presented with the unattractive boys ($n = 10$ pictures) in Group B and D. The second half of the attractive fathers ($n = 10$ pictures) was presented with the unattractive boys ($n = 10$ pictures) in Group A and C and with the attractive boys ($n = 10$ pictures) in Group B and D. The unattractive putative fathers ($n = 20$ pictures in total) were presented in the same way with both attractive ($n = 10$ pictures) and unattractive boys ($n = 10$ pictures) with the same procedure. The same putative fathers presented in Group A with attractive boys were presented in Group B with unattractive boys and vice versa to ensure that each picture was rated under both conditions. The presentation of pictures was random. The boy's (rated first) and putative father's attractiveness ("How attractive do you think this person is?") was rated on a scale from 1 (totally unattractive) to 7 (extremely attractive), and the scores were summed to form a composite index for the boys and fathers separately. The inter-rater agreement for the attractive and unattractive fathers in all subgroups was acceptable (α ranged between .69 and .95). Only the father's scores were subjected to statistical analyses.

Data Analysis

A generalized linear mixed model (GLMM) was used to examine how the treatment (putative fathers presented as biological fathers/stepfathers), facial attractiveness of putative fathers (attractive/unattractive), and facial attractiveness of putative sons (attractive/unattractive) influenced perceived attractiveness of putative fathers (dependent variable). The participant ID and group in which participants rated pictures were treated as random factors in order to take into account the pseudoreplication of the data. The dependent variable was Box-Cox transformed to achieve normality.

Results

GLMM resulted in a significant model (Table 1). Neither the effect of the treatment nor the interaction between treatment × father's attractiveness influenced the ratings of facial attractiveness of putative fathers (Table 1). Putative father's facial attractiveness was significantly influenced by facial attractiveness of putative sons, but this effect was restricted for the treatment where men were presented as biological fathers (not stepfathers) of their sons (Fig. 3). These results provide support for my hypothesis. The father's × son's attractiveness interaction term suggests that the perceived attractiveness of unattractive fathers was more improved when they were presented with attractive putative sons, although this effect was weaker for attractive fathers. A final, three-way interaction term (Table 1) suggests that attractive

Fig. 2 An example of an attractive putative father and an unattractive boy (presented as his son) presented to students in Study 2

men presented as biological fathers received significantly higher attractiveness rating when presented with attractive putative sons (compared with unattractive putative sons), but no similar effects were found in attractive men presented as stepfathers. In contrast, facial attractiveness of unattractive men was improved by presenting them with attractive putative sons regardless of whether men were presented as biological fathers or stepfathers (Table 2).

Study 3

Study 3 experimentally examined the effect of non-human object attractiveness on the attractiveness of men presented simultaneously with the non-human object.

Table 1 Results on GLMM on putative father's attractiveness score

	df	*F*	*p*
Corrected model	7	520.1	<.001
Treatment	1	3.05	.081
Father's attractiveness (FA)	1	2913.1	<.001
Son's attractiveness (SA)	1	65.2	<.001
Treatment × FA	1	0.25	ns
Treatment × SA	1	12.7	<.001
FA × SA	1	7.02	.008
Treatment × FA × SA	1	20.03	<.001
Error	1,032		

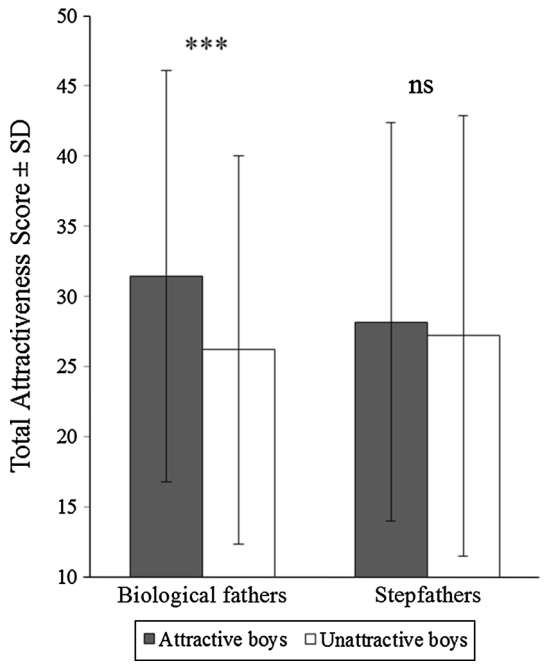

Fig. 3 A comparison of the scores of the facial attractiveness of the putative genetic fathers and stepfathers presented both with attractive and unattractive boys. The *asterisks* (***) denote statistically significant differences (*** $p < .001$) based on pairwise contrast analysis. *ns* not statistically significant

Table 2 Mean values for the facial attractiveness of the putative genetic fathers and stepfathers presented both with attractive and unattractive boys

Treatment	Picture category		Father's attractiveness		
	Father	Boy	M	SD	*n*
Genetic fathers	Attractive	Attractive	44.34	6.30	184
		Unattractive	37.03	11.16	184
	Unattractive	Attractive	18.54	7.56	184
		Unattractive	15.35	6.61	184
Stepfathers	Attractive	Attractive	38.66	10.73	76
		Unattractive	40.32	10.82	76
	Unattractive	Attractive	17.64	6.91	76
		Unattractive	14.08	5.55	76

Method

Participants

A total of 46 undergraduate females with a mean age of 20.48 years (SD = 1.52) participated for extra course credit. All of the students attended the University of Trnava. The females were randomly assigned to two groups (Group A and Group B, $n = 23$ participants per each group).

Selection of Non-human Color Picture Stimuli

The stimuli were 20 attractive and 20 unattractive non-human color objects. The attractive non-human pictures were obtained from Facebook (freely available through a search after placing "beautiful pictures which you have never seen before" in Facebook). I selected nature scenes, non-human animals, buildings, and similar objects which humans find attractive (e.g., Levinson, 2005). The unattractive stimuli were conceptually opposite of the attractive scenes found through Google (e.g., a beautiful beach vs. a dirty beach, small ducklings vs. cockroaches, an attractive building vs. a destroyed building, etc.). The 20 attractive and 20 unattractive non-human color pictures were rated by a group of 20 Caucasian females between the ages of 19 and 24 years ($M = 20.96$, SD = 1.64) who did not participate in further research. The images were rated for attractiveness on a scale of 1 (low) to 7 (high). The mean attractiveness rating of the 20 unattractive pictures was 1.89 (SD = 0.71) and 5.08 (SD = 0.71) for the 20 attractive pictures.

Procedure

The procedure of this experiment was identical to the procedure for Study 2. The only exception was that the attractive boys were replaced with attractive non-human color pictures,

and the unattractive boys were replaced with unattractive non-human color pictures. The participants were asked to rate the attractiveness of the non-human picture (first) ("How attractive do you think this object is?") and consequently the attractiveness of a man in a picture ("How attractive do you think this person is?") on a 7-point scale. The inter-rater agreement for the attractive men in Groups A and B and for the unattractive men presented in both groups was established in Study 2. The inter-rater agreement for the attractive and unattractive non-human pictures in Groups A and B was high ($\alpha = .83, .88, .89$, and .87, respectively). Only the men's scores were subjected to statistical analyses. The data were not normally distributed (Shapiro-Wilk test, $p < .05$); thus, the non-parametric Wilcoxon matched-pairs test was used for the analysis of the data.

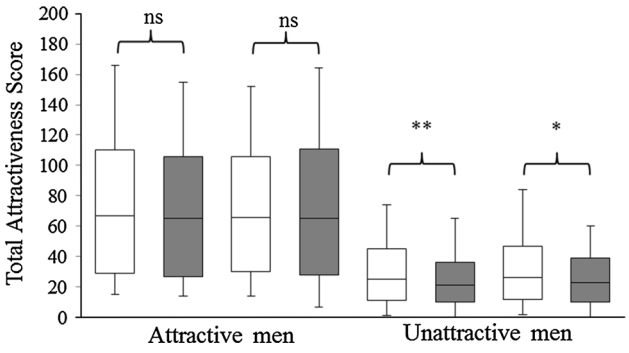

Fig. 4 A comparison of the scores of facial attractiveness of the men presented both with attractive (*open boxes*) and unattractive (*grey boxes*) non-human color pictures in both groups of participants. *Box plots* represent medians, 25th and 75th percentiles, minimum and maximum values. The *asterisks* (***) denote statistically significant differences (** $p < .01$, * $p < .05$) based on the Wilcoxon matched-pairs test. *ns* not statistically significant

Results

The attractive men presented with the attractive or unattractive non-human color objects received a similar attractiveness score (Wilcoxon matched-pairs test, $Z = 0.67$ and 0.33, p's $> .5$, both $d = 0.21$, respectively) (Fig. 4). The unattractive men presented with attractive non-human color pictures received higher attractiveness scores than when presented with unattractive non-human color pictures (Wilcoxon matched-pairs test, $Z = 2.9$ and 2.07, $p = .004$ and .04, $d = 0.7$, and 0.67, respectively).

Discussion

Two different, but complementary research methods across three independent studies were used to investigate associations between father's and son's attractiveness. Study 1, based on the force-choice method, indicated that more facially attractive boys (presented as sons) were more frequently attributed to attractive men (presented as fathers). Conversely, less facially attractive boys were suspected to be sons of less attractive fathers. Study 2, based on manipulating cues of putative sons' attractiveness, revealed that the effects of attractive fathers on their sons also worked reversely. Specifically, priming an attractive putative son positively increased the perceived attractiveness of a putative father. Conversely, priming an unattractive putative son decreased the perceived attractiveness of the putative father. Future research may test this idea on women with male raters and perhaps with explicit images of genetically inferior offspring.

These results are vulnerable to alternative explanations which were addressed in Study 2 and 3. If the perceived attractiveness of boys activates a conscious belief in females that more attractive men tend to have more attractive sons (Study 1), then the same effect should not be observed when the boys are paired with biologically unrelated men. This prediction was mostly supported because the effects of priming were weaker when the father was presented as the stepfather (Study 2). Another alternative explanation is that the effect of priming is more general than proposed here. This alternative was addressed in Study 3 where, once again, the effect of the presence of attractive non-human objects showed a weaker effect on male faces compared with Study 1, where the boys presented as sons were presented with male faces. Study 3 revealed, however, that beautiful objects substantially and consistently improved the attractiveness of the least attractive men. It may be that the activation of the prefrontal cortex in females during visual perception of beautiful objects (Cela-Conde et al., 2004) influences the subsequent ratings of male faces, and an interaction with such a cognitive function results in a stronger appreciation on the part of men with sons.

One explanation of the results of these studies is that the attractive traits of fathers were expected by women to be heritable. This idea has received some support in the biological literature (Alatalo & Møller, 1999; Drobniak, Herdegen, Michalczyk, Prokop, & Radwan, 2012), although evidence among humans is scarce. Cornwell and Perrett (2008), for example, found that both fathers' and mothers' attractiveness predicted the facial attractiveness of daughters. Sons, however, inherited only the fathers' facial masculinity, but not attractiveness. Certain studies revealed, however, that there are correlations between masculine traits and perceived attractiveness (DeBruine et al., 2006; Grammer & Thornhill, 1994; Johnston et al., 2001). Thus, at least some attractive traits seem to be inherited from fathers.

The perceived attractiveness of sons contributes to their reproductive success in the future (Jokela, 2009; Prokop & Fedor, 2011), and women may therefore evaluate the quality of their mates after the first birth. Although the mechanisms of post-mating sexual selection in humans are less understood than the mechanisms of pre-mating sexual selection, the higher reproductive success of non-divorced facially attractive men

relative to facially less attractive men (Prokop & Fedor, 2011) suggests that women are more prone to conceive a child with a more attractive man. Higher divorce rates among couples with genetically inferior offspring (Corman & Kaestner, 1992; Mauldon, 1992; Reichman et al., 2004; Swaminathan et al., 2006) provide further support for the idea that men lacking "good genes" could be reproductively less successful. It may be that the attractive offspring of widowers can positively influence the likelihood of re-marriage or the likelihood of extra-marital mating. Based on my knowledge, however, evidence for these suggestions is not yet available. A complementary possibility is that females may use the attractiveness of sons in mate poaching. When considering the prominent value of male physical attractiveness in the likelihood of engaging in extra-marital relationships (Gangestad & Thornhill, 1997; Rhodes, Simmons, & Peters, 2005), it seems reasonable to suggest that attractive men with attractive children can have stronger changes of being involved in mate poaching. Alternatively, women may infer that the man was able to acquire a more attractive mate (and thus he is a better quality mate in terms of genes and/or investment) if his offspring are more attractive. Further research may disentangle these possibilities by taking into account the offspring attractiveness in the mating success of divorced men.

In summary, previous research was concerned in particular with pre-mating female mate choice. I was interested in this case in indicators of good genes, expressed in the offspring's facial attractiveness, which seem to play an important role in post-mating sexual selection among humans. By their selection of an attractive man, women expect that the facial attractiveness of the man is heritable. Evaluation of the perceived attractiveness of the male after mating continues, and the production of a facially less attractive son results in decreased attractiveness of the father. How the perceived attractiveness and/or presence of genetically inferior offspring influences male and female psychology remains to be studied. The generalized effect of priming with beautiful objects on the least attractive men is another contribution of the present research. These effects may be utilized in particular by less attractive men, for example, by wearing fashionable clothes in order to improve their own attractiveness.

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