

# Social influence in human face preference: men and women are influenced more for long-term than short-term attractiveness decisions

Anthony C. Little<sup>a,\*</sup>, Robert P. Burriss<sup>b</sup>, Benedict C. Jones<sup>c</sup>, Lisa M. DeBruine<sup>c</sup>,  
Christine A. Caldwell<sup>a</sup>

<sup>a</sup>*School of Psychology, University of Stirling, FK9 4LA Stirling, UK*

<sup>b</sup>*School of Biological Sciences, University of Liverpool, UK*

<sup>c</sup>*School of Psychology, University of Aberdeen, UK*

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## Abstract

In nonhuman animals, mate-choice copying has received much attention, with studies demonstrating that females tend to copy the choices of other females for specific males. Here we show, for both men and women, that pairing with an attractive partner increases the attractiveness of opposite-sex faces for long-term relationship decisions but not short-term decisions. Our study therefore shows social transmission of face preference in humans, which may have important consequences for the evolution of human traits. Our study also highlights the flexibility of human mate choice and suggests that, for humans, learning about nonphysical traits that are important to pair-bonding drives copying-like behavior.

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## 1. Introduction

Studies of human attractiveness have usually focused on physical traits of those being judged (Thornhill & Gangestad 1999). Information on the mate choice of conspecifics may also play an important role in determining preferences. Using the judgment of others may allow an individual to assess a potential mate quickly and efficiently. In nonhuman animal species, mate-choice copying has been observed among females of various species (Brown & Fawcett 2005; Dugatkin 2000; Galef & Laland 2005; White 2004). Most commonly studied are fish (Dugatkin & Godin 1992; Dugatkin & Godin 1993; Godin, Herdman, & Dugatkin, 2005; Witte & Ryan 2002) and bird species (Galef & White 1998; Swaddle, Cathey, Correll, & Hodkinson 2005; White

& Galef 2000). Mate-choice copying has also been observed in males (Schlupp & Ryan 1997; Witte & Ryan 2002).

There are a greater number of studies conducted on female choice, and these studies have generally shown that when females observe another female paired with one of two males, they are subsequently more likely to prefer the paired male over the unpaired male. In a classic early example using stuffed dummies, Høglund, Alatalo, Gibson and Lundberg (1995) showed that female grouse mated preferentially with the male that appeared to have other females in his territory. Such studies have generally been conducted in the laboratory, but the same effects have been found when experiments are conducted in the wild (e.g., Witte & Ryan 2002).

Several researchers have noted that mate-choice copying may influence human mate preferences (e.g., Brown & Fawcett 2005; Dugatkin 2000; Uller & Johansson 2003), though as yet there is only limited evidence. Uller and Johansson (2003) found that the presence or absence of wedding rings on men, an indicator that the man has been chosen by another female, did not influence women's preference.

\* Corresponding author. Tel.: +44 01786 467651; fax: +44 01786 467641.

E-mail address: [anthony.little@stir.ac.uk](mailto:anthony.little@stir.ac.uk) (A.C. Little).

A wedding ring, however, is indicative only of partnership status and provides no information about partner value or partner attitude (Jones, DeBruine, Little, Burriss, & Feinberg, 2007). Jones et al. (2007) have shown that the valence of attitude is an important determinate of whether female attention increases male attractiveness. They found that observing other women with smiling (i.e., positive) expressions who were looking at male faces increased female observers' preferences for those men to a greater extent than did observing women with neutral (i.e., relatively negative) expressions looking at such faces. Women then do appear to mimic the attitude of other women to specific men.

Alongside valence of attitude, the traits of the observed "chooser" may also play a role in social transmission. For example, the mate choice of older (more experienced) female guppies is copied more than the mate choice of younger female guppies (Dugatkin & Godin 1993). If attractive individuals are better able to attract high-quality mates, the preferences of attractive individuals may be copied to a greater extent than unattractive individuals. Sigall and Landy (1973) have shown using real individuals that positive characteristics are attributed more frequently to men when paired with attractive than with unattractive women. Such a phenomenon is suggestive of mate-choice copying, whereby women use the quality of partner a man can himself attract to judge his attractiveness.

People are sensitive to mating context in preferences; for example, women prefer more masculine male faces for short-term than for long-term relationships. The relationship between attractiveness and male facial masculinity is not clear-cut; some findings show attraction to masculinity (Cunningham, Barbee, & Pike, 1990; DeBruine et al., 2006; Grammer & Thornhill 1994) and others show attraction to femininity (Berry & McArthur 1985; Cunningham et al., 1990; Little & Hancock 2002; Perrett et al., 1998; Rhodes, Hickford, & Jeffery, 2000). Human males bring two factors to a parenting relationship: a level of paternal investment and potential heritable benefits (e.g., genes for high-quality immune systems). The owners of masculine faces are perceived to have high dominance and lower levels of cooperation, pointing to lower paternal investment (Perrett et al., 1998). In the context of a short-term relationship, the perceived cues to high paternal investment in the feminine-faced male are of little value to a female. Females may therefore seek to maximize the genetic fitness of potential offspring if they are not extracting any other benefits from their mates. In long-term relationships, better parenting and increased cooperation may outweigh the benefits of genetic fitness, thereby enhancing the attractiveness of feminine-faced males. Indeed, studies have shown that masculinity in male faces is preferred more in short-term than in long-term contexts (Little, Jones, Penton-Voak, Burt, & Perrett, 2002; Scheib 2001). For copying-like behavior, we might expect that copying will be more prominent in long-term decisions if it functions to guide choice of individuals who will make good investing partners. Alternatively, we would expect that

copying would be more prominent in short-term decisions if it functions to lead women to choose more indirect, or genetic, benefits.

Although most of the research into mate-choice copying has focused on the behavior of females (e.g., Uller & Johansson 2003), males might also mate-choice copy. Indeed, in a species where males have been tested, sailfin mollies, males are found to follow the apparent preferences expressed by other males (Schlupp & Ryan 1997; Witte & Ryan 2002).

Here we examine the use of information about the attractiveness of paired same-sex images in attractiveness judgments of opposite-sex images for both long- and short-term judgments of attractiveness for both men and women.

We paired target faces with attractive and unattractive faces presented as their partners to examine if individuals were being influenced by this information. We then predicted a mate-choice copying-like effect whereby individuals would use the attractiveness of partners to infer information about the quality of the target and find faces more attractive if paired with an attractive partner than an unattractive partner. Many of the characteristics that individuals prefer in short-term mates are readily discernable, such as physical attractiveness (Buss & Schmitt 1993), and this is less true for characteristics preferred in long-term mates, where desired traits, such as intelligence (Buss & Schmitt 1993), are not usually open to rapid visual assessment. We therefore predicted a copying-like effect to occur more in long-term than short-term contexts. Target faces were also presented in attractive and unattractive forms to address whether target attractiveness influenced attractiveness here.

## 2. Methods

### 2.1. Participants

Fifty-one women (aged 17–44 years, mean=24.9, S.D.=7.0) and 35 men (aged 17–45 years, mean=28.9, S.D.=8.5) took part in the study. Participants were recruited via an electronic poster system asking for volunteers for psychology studies. Participants were selected for being heterosexual and between the ages of 17 and 45 years.

### 2.2. Stimuli

We used masculinity in male faces and femininity in female faces as attractive traits because a previous study using faces from this stimulus set revealed that, overall, women preferred masculine male faces and men preferred feminine female faces (Little, Cohen, Jones, & Belsky, 2007). All stimuli were constructed using established techniques (Little, Burt, Penton-Voak, & Perrett, 2001; Little et al., 2002; Penton-Voak et al., 1999; Perrett et al., 1998; Rowland & Perrett 1995; Tiddeman, Burt, & Perrett, 2001) for manipulating the appearance of face images in an objective systematic manner. (For technical details including mathematical algorithms, see Rowland & Perrett 1995; Tiddeman et al., 2001.)

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