

Male facial attractiveness Evidence for hormone-mediated adaptive design

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Abstract

Experimenters examining male facial attractiveness have concluded that the attractive male face is (1) an average male face, (2) a masculinized male face, or (3) a feminized male face. Others have proposed that symmetry, hormone markers, and the menstrual phase of the observer are important variables that influence male attractiveness. This study was designed to resolve these issues by examining the facial preferences of 42 female volunteers at two different phases of their menstrual cycle. Preferences were measured using a 40-s QuickTime movie (1200 frames) that was designed to systematically modify a facial image from an extreme male to an extreme female configuration. The results indicate that females exhibit (1) a preference for a male face on the masculine side of average, (2) a shift toward a more masculine male face preference during the high-risk phase of their menstrual cycle, and (3) no shift in other facial preferences. An examination of individual differences revealed that women who scored low on a “masculinity” test (1) showed a larger menstrual shift, (2) had lower self-esteem, and (3) differed in their choice of male faces for dominance and short-term mates. The results are interpreted as support for a hormonal theory of facial attractiveness whereby perceived beauty depends on an interaction between displayed hormone markers and the hormonal state of the viewer. © 2001 Elsevier Science Inc. All rights reserved.

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1. Introduction

In a fraction of a second, the brain of a human male or female can ascertain the physical attractiveness of another person's face (Johnston & Oliver-Rodriguez, 1997; Oliver-Rodriguez, Guan, & Johnston, 1999). This remarkable feat appears to depend on the delicate interplay between physical markers on the face, perhaps fitness indicators (Miller, 2000), and exquisitely sensitive brains that generate feelings, perhaps fitness monitors (Johnston, 1999), in response to such signals. Support for this model comes from studies that have used various image-processing techniques to systematically manipulate the features and proportions of female facial images and observe the behavioral and/or emotional responses of men and women exposed to such images. The current experiment attempts to evaluate and refine this model by examining how the attractiveness of male and female faces varies with both their displayed hormone markers, and the hormonal state of female viewers, as indicated by their menstrual phase.

Early studies suggested that the most attractive female face was the average face in a population (Langlois & Roggman 1990; Langlois, Roggman, & Musselman, 1994; Langlois, Roggman, Musselman, & Acton, 1991). Several experimenters, however, have concluded that the image-processing technique used in these studies may be flawed, and proposed that although the average face is attractive, it is not the most attractive face in a population (Alley & Cunningham, 1991; Johnston, 2000). Strong support for the "non-average" hypothesis comes from Perrett, May, and Yoshikawa (1994), who demonstrated that an average face made by combining random faces is judged to be less attractive than the average of attractive faces drawn from the same sample of faces. Indeed, there is now substantial evidence indicating that attractive female faces are not average, but differ from the average in a systematic manner. More specifically, they possess a shorter, narrower, lower jaw, fuller lips, and larger eyes than an average face (Cunningham, Roberts, Barbec, Druen, & Wu, 1995; Johnston & Franklin, 1993; Perrett et al., 1994). These specific markers have been shown to be effective across cultures (Cunningham et al., 1995; Perrett et al., 1994), and electrophysiological studies have revealed that they elicit emotional responses in male, but not female, viewers of female faces (Johnston & Oliver-Rodriguez, 1997). Because pubertal bone growth (brow ridges and lower jaw) is stimulated by androgens (Tanner, 1978), and lip fullness parallels estrogen-dependent fat deposits elsewhere on the female body (Farkas, 1981), Johnston and Franklin (1993) have hypothesized that an attractive female face may be displaying hormone markers (high estrogen/low androgen) that serve as reliable indicators of fecundity.

In contrast to the research on female facial attractiveness, studies examining the importance of hormone markers on male faces have produced apparently incompatible results. For example, although a number of experimenters have demonstrated that women favor a "masculinized" male face possessing a large jaw and prominent brow ridges and cheekbones (Grammer & Thornhill, 1994; Scheib, Gangestad, & Thornhill, 1999), other studies have reported that both British and Japanese females prefer a more "feminized" male face with a shorter-than-average lower jaw (Penton-Voak et al., 1999; Perrett et al., 1998). Still others have found that a mixture of mature features (large lower jaw, prominent cheekbones, and thick eyebrows) and neotenous features (large eyes and small nose) is the most desirable config-

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