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The influence of averageness on children's judgments of facial attractiveness



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ABSTRACT

We examined developmental changes in the influence of averageness on judgments of facial attractiveness by showing adults and children pairs of individual faces in which one face was transformed 50% toward its group average, whereas the other face was transformed 50% away from that average. In one comparison, adults and 5-year-olds rated the more average faces as more attractive whether the faces were of adult females, 5-year-old boys, or 5-year-old girls. The influence of averageness, however, was weaker in 5-year-olds than in adults. In another comparison, a new group of adults and 9-year-olds rated the more average faces as more attractive for male and female faces of adults, 9-year-olds, and 5-year-olds. The influence of averageness was again weaker for children than for adults, although the strength of 9-year-olds' preference was greater than that of 5-year-olds. Developmental changes may reflect the refinement of an average face prototype as children are exposed to more faces, increased sensitivity as visual perception develops, and/or the greater salience of attractiveness after puberty.

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Introduction

Contrary to popular belief, there is high agreement among adults across cultures in the relative attractiveness of different faces (Bernstein, Lin, & McClellan, 1982; Cunningham, Roberts, Barbee, & Druen, 1995; Johnson, Dannenbring, Anderson, & Villa, 1983; Langlois et al., 2000; Perrett, May, & Yoshikawa, 1994), and developmentally infants look longer at faces judged by adults to be attractive

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than those judged to be unattractive (Langlois et al., 1987; Samuels, Butterworth, Roberts, Graupner, & Hole, 1994; Slater, Quinn, Hayes, & Brown, 2000; Slater et al., 1998). Adults can appraise the attractiveness of a face in as little as a glance (Olsen & Marshuetz, 2005), and these quick judgments can influence social interactions because attractive people are judged to have more positive traits than those judged as unattractive (the “what is beautiful is good” stereotype; Dion, Berscheid, & Walster, 1972). One influence on facial attractiveness judgments in adults is a face's proximity to the population average.

In 1878, Sir Francis Galton published the observation that averaged composite faces are attractive. Using composite photography, Galton exposed the portraits of several individuals consecutively onto the same photographic plate, creating an average of the individual faces. He noted that the “composites are better looking than their components” (Galton, 1878, p. 98). Similarly, Langlois and Roggman (1990) found that averaged faces are attractive when they created averaged composites of digital images using 2, 4, 8, 16, and 32 faces by mathematically averaging the luminance values of individual pixels across the images. Adults rated the 16- and 32-face composites as more attractive than the mean rating of the original faces used in their creation. Moreover, composites created from greater numbers of original faces were rated as more attractive than those created from fewer original faces. These findings suggested that faces approximating the population mean are attractive. In addition, because the 16- and 32-face composites looked very similar to one another regardless of which original faces were used (Langlois & Roggman, 1990), and both were more attractive than the mean of their component faces, the average of 16 faces may be a good approximation of a population mean.

Although Langlois and Roggman's (1990) averaging method artificially smoothed skin texture, which could have led to the enhanced attractiveness of the composite over the component faces (Alley & Cunningham, 1991; Benson & Perrett, 1992), others have replicated the finding when they manipulated shape and texture separately. They did so by outlining the features and external contour of each face with landmark points, which can then be used to calculate an average face shape (Rowland & Perrett, 1995; Tiddeman, Burt, & Perrett, 2001). Individual faces can then be transformed relative to the average, such that the spatial configuration and shape changes, whereas the texture remains that of the original face. Using male faces, Little and Hancock (2002) found that separate manipulations that averaged texture or shape each increased attractiveness independently. Moreover, adults judge line drawings of faces, the shape of which have been transformed closer to their group average, to be more attractive than line drawings that have been transformed away from their group average despite the fact that line drawings remove the influence of skin tone and texture completely (Rhodes & Tremewan, 1996). These findings provide evidence that average face shape is attractive independent of average skin texture.

Whereas averageness and symmetry are confounded, because faces nearer to average are also more symmetrical, averageness remains attractive when the effects of symmetry and averageness are examined separately. For example, faces photographed in profile, where direct cues to bilateral symmetry are absent, are judged by adults to be more attractive after having been transformed toward their group average rather than away from their group average (Valentine, Darling, & Donnelly, 2004). In addition, faces that are nearer their group average are judged by adults to be more attractive than faces that are farther from their group average even when all faces have been made bilaterally symmetrical by blending each face with its mirror image (Jones, DeBruine, & Little, 2007; Rhodes, Sumich, & Byatt, 1999). Thus, averageness influences attractiveness judgments independent of symmetry. These studies, along with evidence that averaged faces are attractive across cultures (see Rhodes, Harwood, Yoshikawa, Nishitani, & McLean, 2002 for a review), and that faces naturally sitting closer to the population average are judged to be more attractive than more distinctive faces (Light, Hollander, & Kayra-Stuart, 1981), provide strong evidence that facial averageness is attractive.

From an evolutionary perspective, facial averageness may be attractive because of stabilizing selection, in which evolutionary pressures act against extremes of a trait in favor of average faces or the most common or average features (Dobzhansky, 1982). For many heritable traits, the average signals heterozygosity or having dissimilar gene pairs for heritable characteristics (Fink & Penton-Voak, 2002; Thornhill & Gangestad, 1993). Heterozygosity can signal an outbred individual with greater genetic diversity and resistance to parasites (Thornhill & Gangestad, 1993, 1999), and such individuals may carry fewer harmful mutations, all of which could lead to a mate preference (Dobzhansky, 1982).

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