
LAST BUT NOT LEAST

Why are mixed-race people perceived as more attractive?

Michael B Lewis

School of Psychology, Cardiff University, Tower Building, Park Place, Cardiff CF10 3AT, Wales, UK;
e-mail: LewisMB@cardiff.ac.uk

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Abstract. Previous, small scale, studies have suggested that people of mixed race are perceived as being more attractive than non-mixed-race people. Here, it is suggested that the reason for this is the genetic process of heterosis or hybrid vigour (ie cross-bred offspring have greater genetic fitness than pure-bred offspring). A random sample of 1205 black, white, and mixed-race faces was collected. These faces were then rated for their perceived attractiveness. There was a small but highly significant effect, with mixed-race faces, on average, being perceived as more attractive. This result is seen as a perceptual demonstration of heterosis in humans—a biological process that may have implications far beyond just attractiveness.

The UK population is made up of many racial groups. Based on the 2000 census, 1.2% of the UK population was mixed race, although this is increasing. Much has been written about the difficulties that mixed-race people experience in terms of being between cultures (eg Townsend et al 2009). A study by Rhodes et al (2005), however, appeared to suggest that people of mixed race have an advantage in that they are perceived as more attractive than people whose ancestral background falls more uniformly within a single racial group. Specifically, their research showed that people of a mixed Asian and European background were rated as more attractive than Asians, Europeans, or even faces generated as morphs between these two groups. This research, however, was based on a small set of individuals (including just 16 mixed-race people across both sexes).

There is a biological phenomenon that would predict that we would expect mixed-race people to be more attractive. This comes from the genetic process known as heterosis (or hybrid vigour). This is an idea, put forward by Darwin (1876), that cross-breeding within species leads to offspring that are genetically fitter than their parents. Duvick (2001) explains that this process has been so vital in the development of agriculture during the 20th century that most of the corn produced in the developed world is now based on cross-breeding. The impact of heterosis, however, is not restricted to botany. Milk production from dairy cows can be increased by cross-breeding cattle (Ahlborn-Breier and Hokenboken 1991). Meat production has also benefited from this process (Sellier 1976) and there is even some evidence that guide dogs that are cross breeds are faster learners than pure breeds (Ennik et al 2006). Lippman and Zamir (2006) describe how offspring from parents with greater genetic diversity are genetically fitter than offspring of parents with less diversity, although the exact mechanism for this is still debated.

As heterosis can be argued to be a universal biological effect, it is possible that humans are also subject to its influence, which might explain Rhodes and colleagues' (2005) attractiveness findings. We can use race (in terms of European, Asian, or African ancestral origin) as a blunt tool to identify related genetic similarity. On average, people from the same race will share more genetic material than people of different races, even if this is not true for every set of individuals; however, this difference may be as small as an additional 10% of genetic variability between individuals between races than within races (Jorde and Wooding 2004). Heterosis, if present in human populations, would therefore predict that the offspring of a person with European ancestry

(white) and a person with African ancestry (black) will have more hybrid vigour than the offspring of parents who share either common European genetic ancestry or common African genetic ancestry.

For heterosis to affect attractiveness, it is necessary that attractiveness be related to genetic fitness. In fact, it is probably the best indicator of genetic fitness, as others, such as intelligence or height, would be affected by the environment to a greater degree than attractiveness. It has certainly been argued that attractiveness is related to genetic fitness (Hume and Montgomerie 2001) and the fact that it is so important in mate selection is also further evidenced (Gangestad 1993). There is even some recent evidence that genetic heterozygosity is predictive of attractiveness (Lie et al 2008).

An investigation was carried out to assess the difference, if any, in perceived attractiveness of people with greater parental genetic diversity over those with less parental genetic diversity, as revealed by their racial background. Facial images were harvested from the social networking website facebook.com. These were collected according to social groups that the people submitting the images belonged to. People who were members of groups making reference to being of mixed race [eg “mixed race and proud of it”]⁽¹⁾ formed a mixed-race group ($N = 483$). People who were members of groups making reference to groups who were from geographical regions of the UK with minimal ethnic minorities (eg “Cornish and proud of it”) formed a white group ($N = 368$). People who were members of groups that made reference to being Black and living in the UK (eg “Black and brum”) or made reference to coming from parts of Africa (eg “Gambian and proud”) formed a black group ($N = 354$). Facial images were used only if they contained only one person’s face, would be recognisable to a friend, were not obviously of a different race from the group in which they were found, and did not have weird expression. As such, there was little control over the style of presentation of a face within the image which would lead to increased variability in any assessment of the images (such increased variability would act against the test hypothesis, but would be random across all three groups). In total, 1205 male and female faces were collected by two research assistants naive to the hypothesis regarding attractiveness. Twenty white psychology students rated each face on its attractiveness on a 9-point scale (5 being of average attractiveness).

The averaged results (see figure 1) were that the mixed-race faces were perceived as being significantly more attractive than either the white or black faces ($F_{2,1199} = 25.4$, $p < 0.001$). This effect was significant for both male ($F_{2,527} = 7.879$, $p < 0.001$) and female faces ($F_{2,672} = 22.314$, $p < 0.001$). In spite of the highly significant effect, the size of the effect was small with racial background accounting for just 4% of the variance in attractiveness ratings.

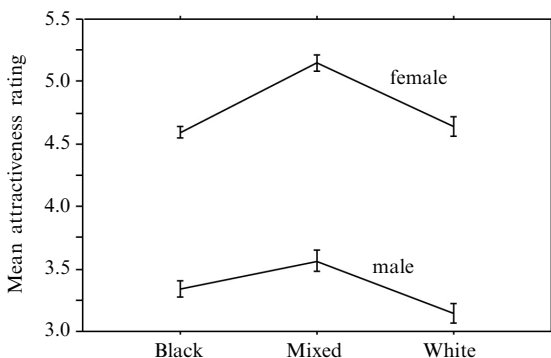


Figure 1. Mean attractiveness ratings for the 1205 faces according to gender and race. Error bars show standard errors by items.

⁽¹⁾The actual names of the groups used were different to the fictional examples provided to preserve the anonymity of the individuals as some of the groups were quite small.

This small size of this heterosis effect on attractiveness is consistent with the fact that racial background accounts for only an additional 10% of genetic variation in humans. Interpreting the distributions of the data from the current finding means that if we were to take a random mixed-race person and a random non-mixed-race person there would be a 60% chance that the mixed-race person will be the more attractive of the two (ie only slightly above chance, 50%, if there were no difference). The small difference in attractiveness, however, occurs across the whole range of the faces. As a result, the faces that fall within the upper percentiles of attractiveness are greatly over-represented by mixed-race faces. For example, 40% of the faces in the experiment were mixed race but among the top 10% most attractive faces this proportion increased to 65%. Of the top 5% most attractive faces, 74% were mixed race. If we extrapolate the distributions found here to a country such as the UK with approximately 1.2% mixed-race population, then we would expect to see the top 1% most attractive people contain approximately 7.7% mixed-race people on the basis of the male data or 8.7% on the basis of the female data. This might go some way to explain why many winners of TV talent/popularity shows in the UK (eg *X Factor* or *Britain's Got Talent*) are of mixed race.

The results presented here confirm that people whose genetic backgrounds are more diverse are, on average, perceived as more attractive than those whose backgrounds are less diverse. This can be taken as evidence for heterosis among human population groups, albeit in just one domain—attractiveness. There is further, albeit anecdotal, evidence that the impact of heterosis goes beyond just attractiveness. This comes from the observation that, although mixed-race people make up a small proportion of the population, they are over-represented at the top level of a number of meritocratic professions (eg golf with Tiger Woods; acting with Halle Berry; Formula 1 racing with Lewis Hamilton; and, of course, politics with Barak Obama). Understanding the effect that heterosis has on the distribution of genetically determined performance might help to explain this over-representation.

References

- Ahlborn-Breier G, Hokenboken W D, 1991 “Additive and non additive genetic effects on milk production in dairy cattle: Evidence for major individual heterosis” *Journal of Dairy Science* **74** 592–602
- Darwin C R, 1876 *The Effects of Cross and Self-fertilization in the Vegetable Kingdom* (London: John Murray)
- Duvick D N, 2001 “Biotechnology in the 1930s: the development of hybrid maize” *Nature Reviews Genetics* **2** 69–74
- Ennik I, Liinamo A, Leighton E, Arendonk J van, 2006 “Suitability for field service in 4 breeds of guide dogs” *Journal of Veterinary Behavior: Clinical Applications and Research* **1** 67–74
- Gangestad S W, 1993 “Sexual selection and physical attractiveness” *Human Nature—An Interdisciplinary Biological Perspective* **4** 205–235
- Hume D K, Montgomerie R, 2001 “Facial attractiveness signals different aspects of quality in women and men” *Evolution and Human Behavior* **22** 93–112
- Jorde L B, Wooding S P, 2004 “Genetic variation and ‘race’” *Nature Genetics* **36** s28–s33
- Lie H C, Rhodes G, Simmons L W, 2008 “Genetic diversity revealed in human faces” *Evolution* **62** 2473–2486
- Lippman Z B, Zamir D, 2006 “Heterosis: revisiting the magic” *Trends in Genetics* **23** 60–66
- Rhodes G, Lee K, Palermo R, Weiss M, Yoshikawa S, Clissa P, Williams T, Peters M, 2005 “Attractiveness of own-race, other-race, and mixed-race faces” *Perception* **34** 319–340
- Sellier M, 1976 “The basis of crossbreeding in pigs: A review” *Livestock Production Science* **3** 203–226
- Townsend S S M, Markus H R, Bergsieker H B, 2009 “My choice your categories: The denial of multiracial identities” *Journal of Social Issues* **65** 185–204