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### “Facial Colour and Shape Cues to Lifestyle”

We find that yellow-red carotenoid pigments from the fruit and vegetables that we eat in a healthy diet impart a golden colour to the skin. By contrast several aspects of unhealthy behaviour (reduced exercise and fitness, high self-reported stress, sleep loss, and increase in body fat) are associated with a decrease in these coloured skin pigments, probably as they are expended in neutralising oxidative stress. Skin colour can therefore serve as a marker for health. An increase in the yellow-red skin pigmentation is seen as attractive and healthy by the majority of white European and black South African observers that we have tested, although some Asian populations are less attracted by an increased yellow skin colour. Improvements to health behaviours lead to a perceptible change in skin colour in less than 6-8 weeks hence the appearance change may provide an additional incentive for a healthy lifestyle. Blood flow to the skin surface alters on a faster time scale. Skin redness increases within 2 minutes of mild arousal due to sexual excitement or the stress of public calculations. Arousal from public calculation is accompanied by a transient increase in cortisol. Self-report of long-term stress, by contrast, is associated with increase in baseline cortisol and a decrease in skin redness. Again, the skin colour from blood can act as a colour cue to health and allure. Body height, muscle and fat mass are each perceivable from face shape, yet estimates of strength are limited in accuracy and biased by overall size. Cues to physique are similar across cultures, yet there are differences in preference for the cues. When the environment becomes harsher, men become more attracted to cues to high body weight in women. For women, fear of domestic violence decreases attraction to facial cues to size and strength in men. In summary, face colour and shape provide cues to lifestyle and health which influence attraction.

### **Biography**

Born 1954, educated in Psychology and Neuroscience at the University of St Andrews (1976), the University of California Berkeley (1977) and the University of Oxford (1981). Returned to St Andrews in 1981 and has worked on the brain mechanisms and perception of faces ever since.