

Is beauty found in the whites of the eyes? 'Red eyes' associated with the sad and unattractive

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Eye images of a young adult female (left) and male (right). In the top images the sclera are white and in the bottom images the eyes have been digitally altered. In the study subjects rated 200 such images. Credit: R.Provine

Beauty is said to be in the eye of the beholder, but a new study reveals that the reverse is also true; unattractiveness is in the eye of the beheld. Research published in *Ethology* finds that people with bloodshot eyes are considered sadder, unhealthier and less attractive than people whose eye whites are untinted, a cue which is uniquely human.

"Red, 'bloodshot' eyes are prominent in medical diagnoses and in folk culture", said lead author Dr. Robert R. Provine from the University of Maryland, Baltimore County. "We wanted to know if they influence the everyday behaviour and attitudes of those who view them, and if they trigger perceptions of attractiveness."

Bloodshot eyes occur when the small [blood vessels](#) of the usually transparent conjunctiva membrane on the surface of the eye become enlarged and congested with blood, giving a red tint to the underlying sclera, the "white" of the eyes. Redness of the sclera is believed to be a general but important sign of a person's emotional and biological state.

"If you met a friend with bloodshot eyes it may be unclear whether you should offer sympathy or medical assistance because red eyes may be a result of weeping, allergies or [infectious diseases](#)," said Provine.

"Comments from our colleagues also suggest that red eyes prompt feelings of discomfort, ranging from increased monitoring of their own eyes to a hint of sympathetic tearing."

In the first empirical test to discover the perceptions and behavioural implications of red eyes Dr. Provine's team tested 208 volunteer students from the University of Maryland, Baltimore County. The volunteers comprised of 93 males and 115 females, with an average age of 20.6 years.

The volunteers were shown 200 images of eyes, half with clear white sclera and half with sclera tinted red by digital image processing. The volunteers were asked how sad, healthy or attractive the owners of the eyes were. The results revealed that people with reddened eyes appear sadder, less healthy, and less [attractive](#) compared to those with whiter, untinted eyes.

This is the first study to demonstrate that eye redness is perceived as a cue of emotion. Humans appear to be the only species which uses eye colouration as an indicator of either health or emotion. This is because other primates lack the background of white sclera necessary to make the reddened conjunctiva visible.

Sclera colour provides even casual, untrained observers with a quick

estimate of the emotional and health status of an individual and the study's ratings of attractiveness suggest that this information does influence our behaviour.

"Standards of beauty vary across cultures, however, youth and healthiness are always in fashion because they are associated with reproductive fitness," said Provine. "Traits such as long, lustrous hair and smooth or scar-free skin are cues of youth and offer the beholder a partial record of health.

Now clear eye whites join these traits as a universal standard for the perception of beauty and a cue of health and reproductive fitness. Given this discovery, eye drops that 'get the red out' can be considered beauty aids."

Provided by Wiley

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