

# Time flies when you are... looking at an unattractive face

November 22 2013

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The common expression 'time flies when you're having fun' suggests that people's perception of duration is moderated by the impact of their emotions and the activities they are performing; in other words, emotions such as fear or sadness affect people's perception of time. Now, a study among female students suggests that visual stimuli, such as attractive or unattractive faces, can make time fly or drag.

Imagine driving along a road when suddenly an oncoming car loses control and hurtles towards you. Fear of the impending crash coupled with emotional arousal increases your 'internal clock speed' so that, if you were asked to assess the length of time available to take evasive action, you would overestimate the duration of the event. In other words, time appears to slow down.

Conversely, an unpleasant stimulus such as eating unpleasant food or viewing an unattractive face – neither of which are life-threatening stimuli – generally lead to an underestimation of duration, i.e. time flies by.

A study by Ruth Ogden of Liverpool John Moores University, School of Natural Sciences and Psychology, has strengthened the body of research evidence that demonstrates how unappealing activities appear to last for a shorter duration:

"... [W]hen confronted with a disliked or atypical stimulus (e.g., unpleasant food or an unattractive face), time is not critically relevant to

survival, and therefore processing the stimulus itself may take precedent over the processing of duration, leading to an underestimation of duration."

In theory, it is likely that perceived attractiveness will influence one's perception of duration, in a similar way to a strong emotional arousal will, because both attractive and emotional images have the potential to increase arousal and grab attention, and therefore are more distracting.

Attractiveness is used during mate selection, and [facial attractiveness](#) is assessed rapidly, increasing arousal and grabbing attention.

Attractiveness also influences the way in which people are appraised by others, with attractive individuals earning more money or being perceived as more socially desirable than unattractive people. It has also been suggested that, through evolution, humans may have developed specialist attentional templates for processing certain biologically relevant stimuli (such as potential threats like angry faces or spiders).

Facial attractiveness is thought to be processed in the amygdala of the brain, and involves activation of the superior temporal sulcus, which is also activated during the evaluation of emotional faces. In addition, some studies have shown that activation of the amygdala is nonlinear, in that it responds to both attractive and unattractive faces, with less activation for neutral faces. Attractiveness could therefore affect duration estimates via either arousal or attention.

Ruth Ogden's study, published in the academic journal *Cognition & Emotion*, asked 20 female undergraduates (18–25 years) to complete a verbal estimation task in which they judged the duration of attractive, unattractive and neutral faces.

The computer-based task presented colour images of female faces taken from a range of sources including the Psychological Images Collection at

Stirling. The images were presented for random durations to disguise the fact that the target durations were repeated across blocks of images.

The study found that participants underestimated the duration of the unattractive faces, and they made less accurate estimates of the duration of unattractive faces, relative to the results for attractive or neutral images.

Ogden postulates that the a-typicality of unattractive faces may mean that the participants' brains process these images less fluently than the more typical attractive faces. This reduction in perceptual fluency may therefore draw attention away from time, and thus results in a reduction in the perceived duration of presentation of unattractive faces.

She notes, however, that if male participants had been used, and were asked to view female faces, the results may have been different due to physiological and neurological gender differences.

She concludes that the variables which moderate our perception of time "cannot be understood exclusively within an arousal-based model."

**More information:** "The effect of facial attractiveness on temporal perception", *Cognition & Emotion* Volume 27, Issue 7. Ruth S. Ogden. [DOI: 10.1080/02699931.2013.769426](https://doi.org/10.1080/02699931.2013.769426)

Provided by Taylor & Francis

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