

# Chocolate smells pink and stripy: Exploring how synesthetes see smells

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Chocolate. Credit: Wikimedia Commons

Being able to identify a smell or flavour appears to be the most important factor in how some synesthetes 'see' them, according to a study just published in the journal *Cognitive Neuroscience*.

The aim of the study was to explore just how much conceptual and perceptual factors contribute to what synesthetes 'see' when they smell.

To do this, the trio of Australians who carried out the research presented six olfactory-visual synesthetes – people for whom odours elicit a [visual experience](#) – with a range of odourants by nose and by mouth. The participants were then asked to try to identify each smell, note its attributes and illustrate their experience using a computer program or pens and paper. A team of judges then evaluated how similar the

participants' images of the different odours were.

When reviewing the data, the researchers found that images relating to flavours that the participants identified were the most consistently similar. However, even images inconsistently named resulted in images more similar than those relating to completely different odours. The key to this discovery seems to be that 'hedonic information' – how much the participant likes or dislikes the odour – drives how similar the resulting images are.

The authors explore further why this should be the case: "One possibility is that the odor name alone could evoke these complex visual images, but this does not seem to be the case with our synesthetes. They all reported that the experience occurred on smelling the odorant, not when talking about it. Although all of these synesthetes also have synesthesia related to language, they vary in whether all letters and words, letters alone, or only some words evoke synesthesia."

They conclude: "Our data suggest that odor identification is important in supporting the generation of a reliable image, which is consistent with access to meaning being a key driver of synesthetic experience."

This article provides substantial insight into the fascinating phenomenon of synaesthesia, as well as the various ways in which we all – synesthete or not – perceive, identify and process flavours and odours all around us.

**More information:** Alex Russell et al. Chocolate smells pink and stripy: Exploring olfactory-visual synesthesia, *Cognitive Neuroscience* (2015). [DOI: 10.1080/17588928.2015.1035245](https://doi.org/10.1080/17588928.2015.1035245)

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