

Coffee addicts really do wake up and smell the coffee

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Regular coffee drinkers can sniff out even tiny amounts of coffee and are faster at recognising the aroma, compared to non-coffee drinkers, new research has found.

Habitual [coffee drinkers](#) are not just more sensitive to the [odour](#) of [coffee](#) and faster to identify it, but the more they craved coffee, the better their ability to smell it became.

It is the first time evidence has been found to prove coffee addicts are more sensitive to the smell of coffee.

The results could open the door to potential new ways of using aversion therapy to treat people addicted to substances with a distinct smell, such as tobacco and cannabis.

The research was led by Dr. Lorenzo Stafford, an olfactory expert in the Department of Psychology at the University of Portsmouth.

He said: "We found the higher the [caffeine](#) use, the quicker a person recognised the odour of coffee.

"We also found that those higher caffeine users were able to detect the odour of a heavily diluted coffee chemical at much lower concentrations, and this ability increased with their level of craving. So, the more they desired caffeine, the better their sense of smell for coffee.

"We have known for sometime that drug cues (for example, the smell of alcohol) can trigger craving in users, but here we show with a mildly addictive drug, that craving might be linked to an increased ability to detect that substance.

"Caffeine is the most widely consumed psychoactive drug and these findings suggest that changes in the ability to detect smells could be a useful index of drug dependency."

The team wanted to examine if there were any differences in the ability of people to smell and respond to the odour of coffee, depending on whether or not they were big coffee drinkers. The results point firmly to a link, with heavy coffee drinkers being more sensitive to the smell of coffee, and the smell being linked to their cravings.

The study is published in *Experimental and Clinical Psychopharmacology*.

The research was based on two experiments.

In the first experiment, 62 men and women were divided into those who never drank anything containing caffeine; those who consumed moderate amounts (70-250mg, equivalent to 1-3.5 cups of instant coffee a day); and those who consumed a high amount (300mg, equivalent to 4 or more cups of instant coffee a day).

Each person was blindfolded and, to test their sensitivity to the smell of coffee, they were asked to differentiate very small amounts of the coffee odour from odour blanks, which have no smell. For the odour recognition test, they were asked to identify

as quickly as possible the scent of real coffee and, separately, the essential oil of lavender. Those who drank the most coffee were able to identify coffee at weaker concentrations and were faster to identify the odour.

Each person was also asked to complete a caffeine-craving questionnaire. Predictably, the results showed that the more caffeine a person usually consumed, the stronger their craving for caffeine.

"More interestingly, higher craving, specifically that which measured the ability of caffeine to reverse withdrawal symptoms such as fatigue, was related to greater sensitivity in the odour detection test," Dr. Stafford said.

In a second test, 32 people not involved in the first experiment were divided into those who drink coffee and those who do not and they were tested using the same odour detection test for coffee odour, and with a separate test for a control, using a non-food odour.

Again, the results showed the caffeine consumers were more sensitive to the coffee odour but crucially, did not differ in sensitivity to the non-food odour.

The findings suggest sensitivity to [smell](#) and its links to craving could be used to help break some drug use behaviours, including addiction to tobacco or reliance on cannabis, Dr. Stafford said.

Previous research showed those who were trained to associate an odour with something unpleasant later showed greater discrimination to that odour, which provides evidence of a possible model for conditioned odour aversion.

Provided by University of Portsmouth

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