

Coffee consumption unrelated to alertness

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(PhysOrg.com) -- The stimulatory effects of caffeine may be nothing more than an illusion according to new research, which shows there is no real benefit to be gained from the habitual morning cup of coffee.

Tests on 379 individuals who abstained from caffeine for 16 hours before being given either caffeine or a [placebo](#) and then tested for a range of responses showed little variance in levels of alertness.

The study, published online in the journal of *Neuropsychopharmacology*, reports that frequent coffee drinkers develop a tolerance to both the anxiety-producing effects and the stimulatory effects of caffeine. While frequent consumers may feel alerted by coffee, evidence suggests that this is actually merely the reversal of the fatiguing effects of acute [caffeine withdrawal](#). And given the increased propensity to [anxiety](#) and raised [blood pressure](#) induced by [caffeine consumption](#), there is no net benefit to be gained.

Peter Rogers, from the University of Bristol's Department of

Experimental Psychology and one of the lead authors of the study, said: “Our study shows that we don't gain an advantage from consuming caffeine - although we feel alerted by it, this is caffeine just bringing us back to normal. On the other hand, while caffeine can increase anxiety, tolerance means that for most caffeine consumers this effect is negligible.”

Approximately half of the participants were non/low caffeine consumers and the other half were medium/high caffeine consumers. All were asked to rate their personal levels of anxiety, alertness and headache before and after being given either the caffeine or the placebo. They were also asked to carry out a series of computer tasks to test for their levels of memory, attentiveness and vigilance.

The medium/high caffeine consumers who received the placebo reported a decrease in alertness and an increase in [headache](#), neither of which were reported by those who received caffeine. However, their post-caffeine levels of alertness were no higher than the non/low consumers who received a placebo, suggesting caffeine only brings coffee drinkers back up to 'normal'.

The authors also found that the genetic predisposition to anxiety did not deter coffee drinking. In fact, people with the gene variant associated with anxiety tended to consume slightly larger amounts of coffee than those without the variant, suggesting that a mild increase in anxiety may be a part of the pleasant buzz caused by [caffeine](#).

More information: The paper; Association of the Anxiogenic and Alerting Effects of Caffeine with ADORA2A and ADORA1 Polymorphisms and Habitual Level of Caffeine Consumption; is published online in the journal of Neuropsychopharmacology. www.nature.com/npp/index.html

Provided by University of Bristol

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